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THE Journal of Home Economics

For those interested in Homemaking, Institution Management, and Educational Work in Home Economics

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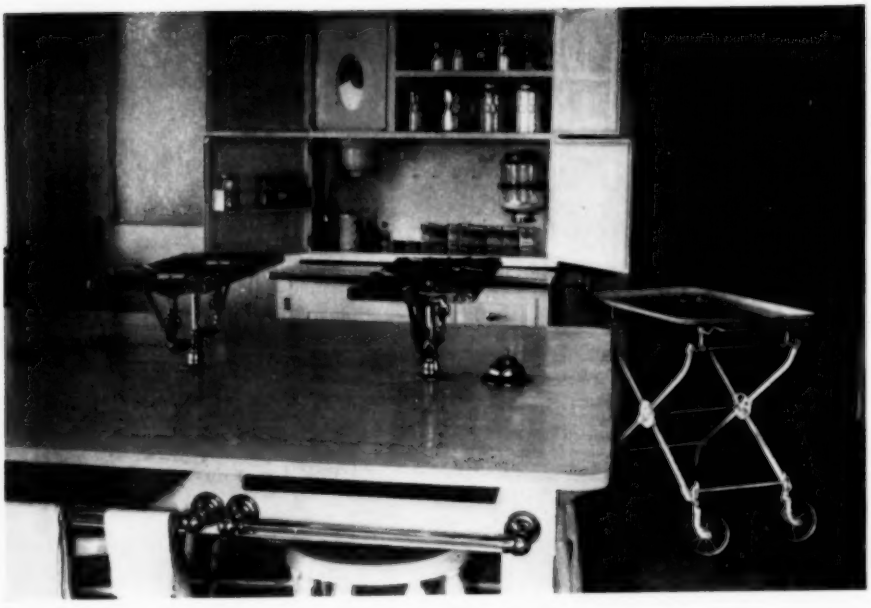

Showing a cupboard, tray, table, and individual towel rods.

Showing rod for paper towels, fire extinguisher, and garbage pail.

THE KITCHEN, GEORGIA NORMAL AND INDUSTRIAL COLLEGE. (See page 353).

THE
Journal of Home Economics

VOL. VIII JULY, 1916 No. 7

MUNICIPAL MARKETS OF THE NORTHWEST[1]

MRS. FREDERICK CALKINS

Ellensburg, Washington

Municipal markets are not usually considered necessary or profitable in cities of a population less than 25,000, and very few cities of less size support public markets. Therefore in discussing the municipal markets of the Northwest we are really considering the markets of only four cities: Spokane, in Eastern Washington; Seattle and Tacoma in Western Washington; and Portland in Oregon—cities ranging in population from 100,000 to 350,000.

A market to be a success must come in response to a popular demand from the people of that community, and after its establishment must be loyally supported by them. A city which is surrounded by small truck gardens makes a better market center than a city adjacent to the larger farming areas. Perhaps this is one reason why there are larger and more numerous markets in Seattle than in Portland though the cities are somewhat the same size. Foreigners and a middle class population take more kindly to municipal markets than any other class of people; the very poor are more given to buying on credit, and nearly all markets are run on a cash basis.

Strictly municipal markets (meaning public markets built, owned, and managed by the municipality) are very few as compared with the so-called city or public markets which are managed by private individuals or corporations.

[1] Presented at the Eighth Annual Meeting of the American Home Economics Association, Seattle, 1915.

Seattle has seven public markets, but at only two of these (Pike Place and Westlake) are there stalls available for the farmers and producers. There are about two hundred of these stalls (wagons are no longer allowed here) which the farmer draws by lot, and for this privilege pays ten cents—the only charge.

Spokane has several markets but they are all privately owned and managed and are chiefly large emporiums for the convenient association of commercial interests rather than the bringing together of the producer and the consumer. At one of these markets (Second and Stevens Streets) during certain hours each day, the farmers are allowed to back their wagons up to the curbing where they stand in the hot sun or the rain because they are not permitted a stall in the market building.

Portland opened its first municipal market two years ago though there was considerable public sentiment against it. It occupies two blocks on Yamhill street with somewhat substantial and artistic looking stalls on both sides of the street. I believe the only charge to stall holders is a small amount, probably enough to pay for a caretaker or janitor. The city gives free lights, free garbage collection, and free rent and water.

The original idea in establishing this public market was to make a place where the small producer could sell his products directly to the consumer; and, with the operating expense reduced to the minimum, it was intended that the consumer would be benefited by a reduction in food prices. This market has proved immensely popular with the masses and is crowded with buyers; but it has not accomplished its purpose of reducing the cost of living. There seems to be a regular combine among the stall-holders, and prices are absolutely uniform in every stall. The stalls are rented very largely—perhaps 60 per cent—by Japanese who are supposed to be farmers but in reality are simply retailers or sell on commission. There may be a very few producers selling their own products directly to the consumer, but the market is so largely made up of retailers who have had nothing whatever to do with the growing of the products they sell, that the Retail Grocers Association of Portland has recently made a strong protest against the market as now conducted. They maintain that it is clearly a case of discrimination against retail grocers and other taxpaying merchants, for the city to conduct this market at the expense of the city and the public for the benefit of certain individuals, some of whom are using said market place for the purpose of retailing produce gathered from different parts of the state.

Whether it is or is not an expense to the taxpayers is a question aside; the real question is: Does the market accomplish the purpose for which it was established, i.e., has it brought the actual small producer in contact with the consumer, and has it reduced the price of food stuffs? It would seem to have failed of its purpose in both these respects, and what is true in the case of the Portland municipally managed market is true in the majority of other cities having strictly municipal markets.

Tacoma has one municipal market, consisting of a single row of stalls, each about ten by twelve feet square, the display tops slanting towards the sidewalk. The enclosed space beneath is used for storage. There are about thirty-five of these wooden stalls extending for two blocks along the curbing of "D" Street —or Market Street as I believe it is now called. The stalls extend for a foot or a foot and a half on the sidewalk, and the rest on the street, and are slightly elevated to allow for cleaning underneath. The sidewalk and stalls are protected by a shed roof which extends over the sidewalk to the large building facing the row of stalls. There are small shops and stalls in this building but they are not under city control.

This city, like most others, built this market in order to eliminate the evils of the middleman's charges, and to benefit the small grower as well as the consumer; but absolutely no attempt is made to rent the stalls to the actual producers and practically every stall is held by a retailer simply. The stalls have a sliding scale of rent, starting with $25 per month for the first stall on the corner (considered the most advantageous location), 50 cents less for the next stall, and so on.

The stall holders also pay for the light and water, and the stall prices are the same in winter as in summer—the rentals averaging the city a revenue of about $500 per month. This more than pays for the expense of repairing, the general upkeep, and the market master's salary, and so is really a profit to the city.

The food ordinance of Tacoma provides that no food shall be exposed or displayed for sale upon any street or sidewalk, but makes an exception of the public market. This is manifestly "class discrimination" and the other merchants are very well aware that the city cannot enforce this section of the ordinance and are quick to take advantage of this situation. A request from the Food Inspector that the grocers take in their sidewalk display is sure to be met with the reply: "Make the Market stop displaying on the sidewalk, and *then* talk to us! You are

breaking the ordinance yourselves, and you are breaking another one too—obstructing traffic!"

In every city market there are presented two almost universal problems: to secure healthy competition which will do away with price fixing, and to eliminate dishonesty in its various forms. Most cities fail to accomplish this; but one of the middle western cities is said to have solved this problem. The city has absolute control of the market, and the full responsibility is placed upon the market superintendent who is given full rein. Whenever a stall is rented it is with the express stipulation that the renter can sell there only so long as he deals fairly with the public and so conducts his business that it does not become detrimental to the best interests of the market. In the beginning there were a few dealers eliminated from the market and since then there has not been a single complaint of dishonesty in two years, and there seems to be no suggestion of fixed prices.

It would seem that if municipal markets were given more thought and attention by the municipality, and their management placed in the hands of a superintendent of understanding and honesty who would not be subservient to political influences (willingly or unwillingly as the case may be), and the rentals of the market kept at cost and become neither a liability nor a profit to the city, such markets would perform a needed service to the community.

It is very apparent from the constantly increasing number of public markets that these institutions have proved exceedingly popular with the mass of the people. They are usually located near the business centers and many housewives go in person to the market places to select from the wide variety so temptingly displayed.

Even if the prices are uniform there still remains the advantage of a larger quantity from which to choose, and under the eye of the purchaser there is less chance of shortness in weight, quality, or measure. There is also a tendency to purchase less if cash is paid at the time of purchase, and doubtless the cash purchasing is often a saving to the housewife for this reason.

The foreigners certainly understand the cultivation of berries, fruits and vegetables, and the artistic arrangement of the wares at the stalls is a joy to behold. Surely the beauty-loving souls of these Orientals and children of the Southland must find no little satisfaction in the wonderful variety of colors at their disposal. The displays are usually arranged with a splendid regard for color effects and most pleasing

results as to light and shade. Frequently the heavier, darker foodstuffs such as the shining purple egg-plant, young beets, or red-cheeked apples, and the luscious grapes or rich-toned plums, are surrounded and contrasted by fruits and vegetables of a lighter coloring. The brilliant red tomatoes nestle against a tray of pale green lettuce heads, and the smooth green cucumbers are piled near a mound of shining white celery. The pale lemons and the darker hued oranges are most attractive against a background of parsley, and the pearly whiteness of the new corn shines forth from a border of crisp watercress. During the berry season there are bright strawberries, the duller toned raspberries, blackberries and the huge logan berries to add to the wonderful variety of color. The equable climate of this coast and the rich soil produce truly wonderful fruits, vegetables, and berries and a large assortment of palatable foodstuffs may be found the year around.

OLD BAKE OVENS IN PENNSYLVANIA[1]

EDITH M. THOMAS

The quaint old-time "Dutch" ovens or "Backofen" as Germans call them, built of either brick or stone, in a separate building not far distant from the house, or at one end of the farm-house kitchen, are seldom if ever used by the up-to-date housewife of the present day; in fact these old ovens once so common in Pennsylvania are so rarely seen, as to be practically unknown to the present younger generation, especially those dwelling in cities.

I have frequently heard my grandmother affirm "Sweeter bread than that baked directly on the hearth of an old 'Dutch' oven, 'twas impossible to procure;" and I do not think the veracity of this statement will be questioned, when I inform you of the fact that very soon after the arrival of my grandparents in a distant city, where they purchased a home with the expectation of residing permanently, my grandfather complied with my grandmother's urgent request to have an oven built, exactly like the one in which she had baked bread at their old home on a Bucks County farm.

[1] A paper presented at the annual meeting of the Bucks County, Pa., Historical Society at Doylestown, January 25, 1916.

The efficient housewives of our day may be interested in the old-time method of preparing sponge for those hearth-baked loaves of bread. Usually the sponge for bread was mixed in an old fashioned, wooden dough tray, somewhat similar in shape and size to a small steamer-trunk; this was partly filled with flour; the sponge or batter was mixed at night in one end of this tray, surrounded by a wall of flour, any preferred liquid and home-made hop yeast being used. It was then placed near the open fire place until the following morning, when the well-risen sponge was stiffened from the remaining wall of flour surrounding it, thoroughly kneaded, then moulded into shapely loaves, which were then placed in well floured straw baskets, or "Brod Corvels," as they are called by the Pennsylvania Germans. In the meantime a fire of hard wood had been built on the hearth. When the oven was thoroughly heated to the correct temperature for baking, and the dough in baskets had raised sufficiently, the hot, charred pieces of wood were raked from the oven. With a primitive mop, called a "swab," consisting of a piece of cloth fastened to one end of a long pole (which was immersed in a pail of cold water), the brick floor of the oven was thoroughly cleansed ready for the well raised loaves; the baskets containing the sponge were quickly turned upside down onto a long handled, broad, wooden shovel used exclusively for this purpose, and with a dexterity only acquired by continued practice, the loaf was quickly transferred from the shovel to the hot oven floor.

When the oven had been filled to its utmost capacity with bread, cakes, and pies (the Pennsylvania German's love for pie is proverbial), the oven door was adjusted to prevent the escape of heat and was held in place by the handle of the shovel resting against it, in the primitive manner in which things were done in those days. In a short space of time, the entire week's baking had been accomplished more expeditiously than if a modern range had been used for the purpose. Bread in olden times, especially rye loaves, baked directly on the hearth, possessed a sweet, nutty flavor obtained in no other way.

It may be interesting to know that these hearth-baked loaves of bread were usually about forty-six inches in circumference and from three to three and one-half inches in height.

These "Dutch" ovens usually, when measured across, were four and one-half feet wide, five and one-half feet long, and thirty inches high, above the solid wall built of stone with a heavy clay foundation. The door opening was eighteen by twenty-one inches and these ovens were frequently built within a stone and frame building eight by twelve feet.

STANDARDS FOR HIGH SCHOOL TEXTBOOKS IN HOME ECONOMICS[1]

AGNES K. HANNA

University of Chicago

After a period of several years when no high school textbooks were being published we have had eight or ten books offered within the last two years, and rumors of many more in the making. These books mainly consider foods, nutrition, and household management, and do not include the clothing and applied art problems. The problem of selection of a good text from among the number offered is our problem at present, and this brings to our attention the need for discussion of the standards by which to judge the adequacy of a given book.

Before discussing any specific points I should like to raise the question of a clear definition of our need as teachers of Home Economics. Do we need more books to assist us in organizing the material for our high school classes rather than more high school textbooks? Should these take the form of comprehensive laboratory manuals with suggestions as to method of presentation, or do we need books on methods of presentation and organization of both laboratory and theoretical work? For books to be put into the hands of the students do we need a multiplication of our present type of high school textbooks, or do we need more comprehensive material of each of the aspects—laboratory manuals, and text material or subject matter? It is a very interesting commentary on our present use of textbooks that a large percentage of teachers are still dictating laboratory experiments and subject matter to their classes, their explanation being that they are unable to find an adequate textbook.

The conventional method of treatment in books on Food and Nutrition is an arrangement of combined text and laboratory manual which may be divided into specific lessons or treated in topics under such general headings as fruits, vegetables, meats, and fish. Sub-topics under these headings are: (1) Composition of food materials illustrated by more or less formal experiments, by tables of general composition, or merely by statements of the significant composition in terms of protein, carbohydrate, and mineral matter; (2) a statement of food value and use of foods in the body; (3) reasons for and methods of cooking;

[1] Contributed by the Home Economics Committee of the Central Association of Science and Mathematics Teachers.

(4) cost; (5) recipes and experiments to be used in class work. The books also usually contain several introductory chapters on equipment and its care in the laboratory, fuels, and general methods of cooking. This material is often further augmented by suggestions of class room management for the teacher, or in many cases chapters are given on the value of Home Economics in school work. The subject matter covered may be specifically foods, or it may include several or all of the various phases of Home Economics. A large number of these textbooks are the formation in book form of actual class room experience with a definite group of students. There are definite advantages in this plan but also some notable disadvantages, as it is very difficult to adapt to other school conditions so clearly defined a method of presentation as this entails.

Is it possible to write textbooks with enough and sufficiently comprehensive material to be usable by all types of high schools, or should each distinctive type of course demand its special type of book? If the latter is true, our greatest need would seem to be to develop more variety in our conception of the organization of textbooks. The following types of presentation are suggestive of different points of view in presenting cooking: (1) The use of experimental cooking to develop the principles of cooking; (2) the study of cost and time value as basic aspects leading up to later work in household management; (3) the cost and nutritive value of foods dominating other phases. If it seems advisable to develop these specialized forms one of the fundamental considerations of a text should be a definite method of developing the subject in a way to bring out the specific values desired. In general, the arrangement of laboratory work in texts or the laboratory manual part of the book more definitely defines the method than the informational or text material. For example, if my basic idea is to develop a study of cost in relation to quality and time spent in preparing foods, my text material might be similar to other books, with possibly a greater emphasis on marketing conditions, but my laboratory work, including experiments and their applications, would be arranged to emphasize different methods of using different qualities of food materials, the systematic use of the pressure and fireless cookers and other labor-saving methods and devices, and a regular use of meal serving at definite stages in the course. Could you use any of our present textbooks for all of these different cases? Can you conceive of any type of textbook that could meet all of these needs? If this issue is significant, a textbook should either

clearly define a specialized method of presentation or offer adequate material to allow selection on the part of the instructor.

A second problem on which our point of view varies in judging textbooks is the adequacy of our high school books from the subject matter standpoint. The subject of Home Economics covers a vast range of material—scientific, technical, and economic—and it is separable into definite subjects such as marketing, cooking, dietaries, and household management. Home Economics in the high school means anything from a half unit to a four unit course. In the half unit course an instructor must decide what phases of her problem she will emphasize and frankly eliminate those which, though in themselves interesting, have no direct significance in the general course or for the personal needs of the student. In the four unit course, on the contrary, where subject matter is studied under these different headings, textbooks should cover each phase of Home Economics in a comprehensive way. Obviously the textbook which attempts to cover the whole problem in an elementary way meets neither of these needs. As an illustration of this, if I wish to give a class significant work on marketing, there is no textbook available at the present time which offers enough material for my class. I am dependent upon references from various sources to augment the sixteen-page chapter in the only book offering any organization of this subject. There is also very little adequate material dealing with the subject matter of nutrition and dietaries. In attempting to simplify material for high school classes, most of our textbooks eliminate rather than develop our subject in a clear, explanatory way which notes general principles and explains applications. An interesting illustration of the inadequacy of subject matter in our high school textbooks is that of a recent book, the editor of which made, as a great point in its recommendation, the statement that the entire subject of Home Economics to be presented in a two year course is covered in 334 pages. For what other subject would it be a matter of congratulation that the single textbook could be used for a two unit course?

A third point in standardization of textbooks is the problem of the advisability of the survival of the lesson by lesson text. By this I mean the books which subdivide the material into a series of lessons rather than under topical headings. While this type of book may have some definite values for the inexperienced teacher, there are certain limitations and losses imposed by this form. The material is not readily available for reference. The continuity of subject matter is lost. In

following such a textbook effective teaching is often subordinated to covering a definite amount of material in a given lesson. This form of textbook also, if put into the hands of students, allows the teacher little opportunity for originality in method of presentation.

A fourth value by which we judge our textbooks is the adaptability of the book to the needs, understanding, and interests of the high school girl. As was suggested earlier in this discussion, many of the high school texts present a simplified form of material that has been presented to the teacher herself in normal schools and universities, rather than a reorganization of this material from the standpoint of the high school girl's interest.

I have attempted to summarize what would seem to be the principal issues in judging our various texts. The chief criticism of the current textbooks might be classified as: (1) An attempt to cover thinly far too much ground; (2) poor balance between text material and laboratory directions which take the form of padding with recipes and insufficient subject matter; (3) vagueness in the relation of the subject of Home Economics to science material of other courses. A textbook in cooking should either presuppose previous science work and emphasize all the applications of science principles, or else it should definitely include enough work in the sciences to make the practical applications of chemistry, physics, and bacteriology not mere statements of fact, but significant applications of general principles. (4) The problem of cost of foods is often either ignored or else treated in such an isolated way that the student has no conception of the relative cost of food materials or labor expenditure and no knowledge of the basic economic principles underlying price. (5) In the attempt to simplify and condense material for high school students many statements are made as final truths which current science is either questioning or disproving. This is especially true in regard to nutrition.

SOME SUGGESTIONS AS TO DOMESTIC SCIENCE EQUIPMENT

EDA LORD MURPHY

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The question of equipment for laboratories is one of continual interest to domestic science teachers. The precious $5 or $10 to be spent for the small school must be spent with as much wisdom and discrimination as the $500 for a more elaborate and complete laboratory. Probably the most effective of school-kitchen equipments evolve —growing, changing, developing as the work grows, changes, and develops. Too few or wrongly chosen utensils prevent efficiency. Too many, even if suitable, are a burden. The teacher who has only two dish-pans for a class of twelve is no worse off than the one who has to find storage room for useless and unnecessary tools. But between these two extremes are the many kitchens where a reasonable amount of money is to be spent at the discretion of the teacher. She must be able to discriminate. She cannot afford to be penny wise and pound foolish. Most of us, however, get our knowledge of real values by the expensive method, known as "experience."

Let us consider first the question of the appearance of the room as a whole and then some of its details. Is it too sweeping a statement to say that *every* school kitchen *everywhere* ought fairly to scream the word "cleanliness?" The school kitchen in "Spotless Town" must live up to the highest standards set by any housekeeper and the school kitchen in Bugaboo must set standards. So there you are!

As far as appearance goes it is almost impossible to over-estimate the value of white paint. White tables, white stoves, white cupboards, if they are clean, look so, and if not clean they show it; in either case, "Murther will out." Even white oilcloth has been known to teach the lesson of cleanliness better than many words. Of course both paint and oilcloth have disadvantages as coverings for table tops but to one who has tried many kinds the disadvantages are outweighed by the satisfaction of having a white kitchen. The costliness of tiling for table tops is almost prohibitive; the composition tops are usually dark in color and absorbent; wood, if well seasoned and fitted is satisfactory but very hard to get, especially in small towns where the carpentry is not always done by skilled workmen. White oilcloth ought to be

used only when the table top is free from obstructions and the tacks can be under the rim of the table. With ordinary care it may last for one school year but if in constant use it may need one renewal. When gas plates or stoves of various kinds rest on top of the table and necessitate the use of zinc, the remaining surface is far easier to keep clean if painted with a heavy coat of enamel. The constant scrubbing wears it off in spots, but one renewal during the year is not extravagant for upkeep.

There is a real and a valuable psychological effect produced by white paint. The whole tone of the room is changed. From a condition which might be called negative cheer it is changed to something positive. There is an incentive to keep things clean because there is genuine satisfaction as a reward. A dining room in which there was a large clumsy table, six chairs, a serving table, a china closet, of erstwhile "Golden Oak" finish, was transformed by the generous use of white paint. With a soft tint on the walls, table cover, curtains, and runner of blue and white Japanese toweling (which is both washable and in good design) the room is cheery and delightful although the sun doesn't reach it. Possibly the lack of direct sunshine makes the whiteness more desirable. So much for white enamel paint as a silent but effective helper in the war on dirt which all of us must wage with diligence till we die. Just try it!

To be quite orthodox, we have usually felt a kitchen ought to have a hollow-square table with the usual arrangment of drawers for small utensils, and cupboards below. Only one who has had to inspect low cupboards knows the joy of having all individual equipment on shelves in plain sight, behind glass doors. The expense of having sufficient cupboard space to accommodate a class is not very much greater than the building or buying of ready-made domestic science tables. The accompanying photograph shows the arrangement of utensils for a group of two. The two lower shelves hold bowls (two sizes), custard cup, measuring cups (one aluminum, one glass), soap dish, matches, knives, forks, spoons, and scissors. The Dover egg beater, strainers, and plate scraper, hang. The second shelf holds the two double boilers, two enamel baking dishes, two saucepans, one small rolling pin (behind the saucepans) and two small serving plates. The top shelf in each cupboard is used for pitchers, teapots, casseroles, and other utensils that are not in constant use.

Cupboard with utensils for two students.

In this kitchen the walls are light yellow, all woodwork white, the bowls blue striped, the cutlery and utility pan aluminum, and all gas pipes and individual stoves nickel plated.

Each pupil has a gas burner with removable grate, a bread board fitted into the table, a glass towel rod fastened to the table and a stool which slips underneath; the cupboard, with utensils for the group, is a step or two behind her.

There ought to be in every laboratory an effective and easily handled fire extinguisher, which everyone is taught to use. The proverbial blanket which is there for the purpose is likely to collect moths and is a nuisance.

The garbage pail is very often an eyesore in an otherwise attractive kitchen. The kind whose cover is lifted by pressing the foot on a pedal enables one to come with both hands full. These are procurable in at least three sizes in white finish.

A tray wagon is invaluable, especially when supplies have to be distributed to several kitchens. One satisfactory kind costs $6.

A glass towel rod is used for a paper towel holder by having a little piece cut out of the knob at one end so that the rod can be lifted out. Paper towels are indispensable. A glass rod for each pupil or a continuous nickel rod have helped solve the problem of keeping the towels in good condition. The general class towel rack is the despair of many a faithful teacher.

In a kitchen which was notably inconvenient because there were no individual burners and no room for gas plates on the table, a series of nine burners was placed against a concrete wall and has proved very satisfactory.

School kitchens are not as a rule both efficient and attractive, but it is possible to have them so. There is a bewildering variety of tools; some are labor savers, and some are labor makers. Some are ugly and some are good looking. Usefulness and durability should not be sacrificed to beauty, but all three qualities can be secured. The rage for aluminum is partly due to the housekeeper's desire to have attractive utensils. A teacher can manage to eliminate the old and unsatisfactory utensils for the newer and better kinds without being extravagant. In any case the school equipment ought not to be stagnant and unchanging, but always in a state of evolution toward perfect efficiency.

WASHING AND CLEANING[1]

WILDER D. BANCROFT

Cornell University

I am not in any way an expert in the art of removing spots; but it seems to me that a classification of the different methods might be helpful in clearing up our ideas and in showing which are the most promising methods for future development. I therefore suggest the following tentative classification:

1. Mechanical removal.
2. Dissolving in a liquid.
3. Peptizing with a liquid.
4. Peptizing with a solution.
5. Peptizing with a peptized colloid.
6. Peptizing in several stages.
7. Adsorption by solid.
8. Peptizing with a liquid and adsorption by solid.
9. Change of substance forming the spot.

A few illustrations will make this classification clearer. When we brush off dried mud we are removing mechanically. The removal of sugar or of some dyes by water is a case of dissolving in a liquid. A more striking case is the extraction of iodine by alcohol. The characteristic of this class is that the substance of which the spot is composed forms a true solution in the liquid.

Before giving illustrations of peptizing with a liquid it is perhaps wise to define the word "peptize." When a substance is dispersed or suspended in a liquid without forming a true solution, we say that it is peptized by the liquid. In muddy water, the mud is peptized by the water. India ink consists essentially of carbon peptized by water. In these two cases it is easy enough to see that there are particles in suspension. With Congo red in water, it is quite impossible to see any suspended particles, but it is possible to separate the Congo red from the water by filtration through a suitably prepared collodion filter. Although olive oil seems very transparent, it is probable that the stearin is only peptized by the oil and that it is not in true solution. If we wash out of cloth a dye which forms a colloidal solution instead

[1] Presented before the Biological Section of the American Chemical Society, University of Illinois, April, 1916.

of a true solution with water, we are peptizing the dye with water. The removal of chocolate by water is another case of the same type because chocolate does not readily dissolve in water. The removal of iron rust from iron by means of kerosene is a case of peptization, because the iron oxide does not dissolve in kerosene. The removal of grease by benzine, gasoline, or naphtha, is another case under this heading because the grease does not form a true solution in these organic liquids. The removal of rosin with benzine comes under the same head.

There are not many cases of peptizing with a solution and this is put in more for the sake of completeness. Some acid dyes can be stripped with sodium sulphate solution; paint stains can sometimes be removed with sodium carbonate solution; and soot can be removed to some extent by means of a dilute caustic soda solution. I do not know whether the removal of grease by borax belongs here or whether the borax actually saponifies the grease, probably the former.

Under peptization by a peptized colloid we have all the cases in which soap is used. Soap does not dissolve in water but is readily peptized by it. The theory of washing with soap has been put on a satisfactory basis by Spring.[2] It is to him that we owe a very striking and instructive experiment. If we filter a fine suspension of rouge or soot through filter paper, some of the particles stick to the filter paper or, as we say, are adsorbed by it. If the liquid is filtered several times through the same paper, the water will finally run through clear, the particles of rouge or soot adhering to the previously adsorbed particles and finally clogging the pores of the filter paper. If a soap solution be poured on the filter, a red or a black filtrate is obtained at once, almost as though one had punched a hole in the bottom of the filter with a glass rod. The soap forms a film round the rouge or the soot, removing the particles from the paper and thus allowing them to pass through. All the rest of the particles follow just as a log jam breaks when the key log is started. At first sight it seems as though the soap must have broken up the carbon or the rouge into finer particles which then passed through the filter, but there are two reasons for rejecting this hypothesis. In the first place, the experiment does not succeed if the rouge or the carbon is too coarse, and there is no apparent reason why the soap should not break up coarse particles if it can break up fine ones. In the second place, Spring showed that we are dealing with an adsorption of soot by filter paper. If the black filter paper be reversed and washed with water,

[2] *Zeit. Kolloidchemie*, 4 (1909), p. 161; 6 (1910), pp. 11, 109, 164.

only the carbon which is not in immediate contact with the paper is removed.

Soap acts in a similar way in removing dirt or grease from fabrics or from the hands. The soap forms a film round the dirt or the grease, removing it from actual contact with the fiber or the skin, thus simplifying the task of washing it away with water.

Ox-gall is also a colloidal solution and acts like soap. When discussing the cleaning of woolen carpets, Owen[3] says:

> Beat and shake them thoroughly in a good breezy place to get out all dust. Have the floor scoured clean and, when dry, replace the carpet, and, if still much soiled and dingy, go all over the carpet with ox-gall and water. The secret of success is to clean and rinse them thoroughly without soaking them through. A pint of fresh ox-gall is put into a pail of clean soft water. With a brush rub up a lather upon about a square yard of the carpet by dipping the brush in the ox-gall and scrubbing with just the movement that raises a lather, but does not remove the fiber from the carpet. Now with a soft cloth or large sponge, not too wet, remove the lather, aiming to do this by frequent wringing out of the sponge in clear fresh water. After all is done, open the windows and the carpet will soon dry out.

On page 114 of the same book Owen says that "skim milk and water with a very little glue or gelatine in it, made scalding hot, will restore rusty black crape. If clapped between the hands and pulled gently till dry, it will look as good as new." I do not know what makes black crape look rusty but I know that the important thing in the skimmed milk is the peptized casein. Since gelatine does not form a true solution in water, the beneficial action is due to a peptized colloid and we do not need to consider what part is to be ascribed to the casein and what to the gelatine.

Peptizing in several stages occurs when we treat a spot due to grease, rosin, or paint with oil which peptizes the substance forming the spot and which can itself be peptized readily by another colloid such as soap. Owen says (p. 90):

> Grease spots are of the most common occurrence. To remove these from white fabrics is comparatively easy, but to remove them from colored fabrics without at the same time doing injury to the color is often very difficult and sometimes impossible. Very much depends upon the skill and perseverance of the operator. Good soap and water is the most universal solvent for

[3] Owen: *The Dyeing and Cleaning of Textile Fabrics*, 1909, p. 100.

greasy matters, and where there is no reason for not wetting the goods, soap and water should be tried. Grease spots from carriage wheels, sewing machines, or any source containing iron from wear of bearings, or carbon from any source, red lead, or any insoluble colored substance, should first be rubbed thoroughly with some oil that is itself capable of being washed out with soap and water [such as] lard or fresh butter, olive oil, linseed oil, etc.

Much depends on how this is done. Don't be afraid to use plenty of oil, butter, or lard, and then work with the fingers, bending the cloth back and forth as if you were breaking a wire, until upon holding it up to the light you see that the dark matter of the spot is completely and evenly distributed and worked up with the oil. When sure this result is accomplished, then work in a thick, cold, watery soap mass obtained by boiling up sliced laundry soap in water and allowing to cool. If on touching the dry soap bar to the tongue, it does not "bite," it should have some sal-soda added to it in the boiling. Work the prepared soap into the cloth where the spot is, until the oil in its turn is worked up with the soap as thoroughly as the spot was with the oil. Now, and not before, wash out the spot with soapy water. Only with very old spots will any trace remain after this treatment. Grease spots succumb very well if rubbed up with kerosene, the kerosene rubbed up with new milk and the whole then worked with soap and water.

In regard to paint Owen says (p. 103):

Paint, when fresh, washes out as readily as any grease spot. As it ages and oxidizes it becomes more and more difficult to soften and remove it. . . . . Oil the spot and rub the oil in patiently, striving to blend the spot with the oil. If the spot is very old, allow it to lie with the oil upon it for several days, rubbing occasionally to see if the paint is softening. A few drops of turpentine, kerosene, or any solvent for greasy matters may be added and worked in. Old lead paint is very persistent. Finally, wash out like a fresh grease spot.

Grease or paraffin may be removed by placing blotting paper over and under the spot, and then applying a hot iron. The grease is adsorbed by the paper and this method of cleaning therefore belongs in Class 7. A number of variations are possible. Fuller's earth may be substituted for the blotting paper and fruit stains for the grease. Wax may be removed with French chalk. Without using heat white woolen shawls can be cleaned by sprinkling them with rice or potato starch which adsorbs the dirt. Starch can also be used to take out iodine. An old-fashioned way of cleaning wall paper is to treat it with dough. Painters use bread as an eraser for charcoal drawings; this is an adsorp-

tion rather than a mechanical removal. Velvet may be cleaned by sprinkling thoroughly with magnesia or corn meal, covering and letting stand twenty-four hours.[4] Furs may be cleaned with corn meal. The removal of grease paints from the face with cold cream comes under this head if one considers cold cream as a solid. A very interesting case under Class 7 was brought to my attention by Mr. C. P. Long of the Globe Soap Company. Starched lace curtains are placed in water with a diastase which converts the starch into soluble starch. When this is peptized by water, the dirt comes off with the starch without any rubbing. Practically this is not the same as starching a dirty but unstarched curtain and then removing the starch, but I think that it is the same in principle.

According to Owen (p. 175), small spots on broadcloth may be removed by treating the spot with a mixture of a pipe-clay, alcohol and turpentine. The alcohol and turpentine peptize the substance forming the spot and the pipe-clay then adsorbs it. Automobile grease can be removed fairly well in the same way, substituting fuller's earth for the pipe-clay. These are instances of peptization with a liquid, with subsequent adsorption by a solid. I have called this a separate class; but it could be put in under a sub-head if one preferred.

In the last class I include all the methods which involve a change in the nature of the substance forming the spot. Under this head we class the methods involving the chemical action of acids, alkalies, oxygen, hydrogen peroxide, chloride of lime, potassium permanganate, sodium hyposulphite, sulphur dioxide, and others. While these substances are usually effective, they are very likely to damage the fabrics.

I believe that the most interesting field for research in washing and cleaning is a study of the methods of adsorption by solids.

[4] Balderston. *Laundering*, p. 113.

THE SOLUTION OF ANTIMONY FROM ENAMELED COOKING UTENSILS[1]

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The purpose of this series of experiments was to investigate the possibility of the solution of harmful substances from enameled dishes in the cooking of foods. Harmful substances which may be present in enamels are lead, arsenic and antimony.

Lead has always been used in glazes applied to crockery ware, which must be fired at low temperatures. The peculiar advantage of lead glazes lies in their wide range of fusion, their low viscosity, and their brilliancy.[2] While successful leadless glazes with low fusion point have been made, they lack the brilliancy of the lead glazes, and the loss from defective pieces is usually greater. The harder porcelain glazes used on fine tableware which can be fired at high temperatures usually contain no lead. In the case of sheet steel enameled ware, for which a glaze of great brilliancy is not necessary, it has been possible to use other substances to act as a flux.

At the time when enameled cooking utensils began to supplant crockery ware in Europe, there had been considerable agitation over cases of lead poisoning ascribed to foods cooked in dishes covered with a lead containing glaze. Laws had been passed forbidding the sale of dishes which yielded more than 2 mg. of lead per liter when boiled for one-half hour with 4 per cent acetic acid. Grünwald,[3] a German authority on enameling, says that one very important reason for the popularity of this new enamel ware was the fact that it was advertised as being free from lead. Authorities seem to agree that lead has never been generally used in enamels. It was found, however, in one saucepan examined in this series of experiments, and so it seems that it is used occasionally.

There is always added to enamels some substance to make the glaze opaque.[4] This is usually tin oxide. Other substances sometimes used are arsenic and antimony. Arsenic is said to be used only in enamels

[1] Presented before the Biological Section of the American Chemical Society, University of Illinois, April 20, 1916.

[2] Tech. Papers, Bur. of Standards, 31, Dec. 1913.

[3] Grünwald, *Tech. of Iron Enamelling and Tinning.*

[4] *Trans. Am. Cer. Soc.* 14 (1912), 740.

for decorative purposes. Because of its relative cheapness, antimony is being substituted for tin, especially in cast iron enameled ware, such as bath tubs. Its use in culinary utensils was forbidden by law in Germany and Austria because of its possible harmful effect. No such laws exist in France, Belgium, or America.[3] Grünwald, the authority quoted above, contends that enamels containing antimony can be made so resistant to chemicals, that practically none would be dissolved in the ordinary cooking processes. There could then, of course, be no objection to its use. In the experiments described below, however, dishes of one particular make were found to be very readily attacked by foods, and to yield antimony in considerable amounts.

Tests were made, first for lead and later for antimony, on fifteen different dishes, some of standard make and some cheap. In only one case was lead dissolved in more than traces, and there its presence may have been accidental, since similar results were not obtained with other saucepans of the same variety. Antimony was extracted in considerable amounts from one dish. Therefore the time was spent chiefly on quantitative determinations of antimony dissolved by acetic acid and by various foods.

The experimental work on lead will be described first.

The dishes were filled with 4 per cent acetic acid, and boiled for one-half hour according to the method used by European investigators.[5] This solution was then tested for lead by the colorimetric method described in Leach for the detection of traces of lead in the presence of tin, iron, and copper.[6]

Of the fifteen dishes so treated three saucepans of standard make which had been used in the cooking laboratory several months gave merest traces of lead. A fourth dish of the same make yielded slightly less than 2 mg. of lead per liter, three successive times. This result was so unexpected and so exceptional that two other tests were made to confirm the presence of lead.[7] As previously stated, the comparatively large amounts of lead in this dish may have been accidental, since three other saucepans of the same kind gave only traces. It should be noted here, however, that this dish which had been used in the laboratory for over a year still gave almost as much lead as the maximum permitted by the laws of Germany and France. This disproves the statements

[5] Mavasuer, J. Nahr. Genussm., 15 (1908), p. 338.
[6] *Leach, Food Insp. and Anal.*, p. 918.
[7] Grünwald, *Enamelling on Iron and Steel*, 1909, p. 19.

sometimes made that all the soluble lead would be extracted the first two or three times the dish was used.

In the process of determining the lead, there was left, in each case, a considerable amount of a white residue. This was dissolved in sodium hydroxide, acidified with hydrochloric acid in excess, and this solution tested for arsenic, antimony, tin, aluminum and silica. In one case a heavy orange precipitate which formed when H_2S was passed through the solution proved to be antimony sulphide.[8] Tin was present in small amounts in the extract from all the other dishes, but no test for arsenic was obtained. Some silica was also present.

The dish which yielded antimony was a cheap gray enamel kettle purchased at the ten cent store. The gloss was removed by the first treatment with acetic acid. After being used a second time the enamel had become much roughened, and a white powdery substance could be rubbed off with the fingers.

After it was discovered that antimony was dissolved from this kettle, several other dishes of the same make were purchased, and quantitative determinations made of the amounts dissolved. Two methods of treating the dishes were followed—first, the method used in testing for lead by boiling with 4 per cent acetic acid; second, by cooking various kinds of food in the dishes. A gravimetric method was used for determining the amounts of antimony dissolved by acetic acid. In the case of the foods, the organic matter was first destroyed and the antimony then determined volumetrically.

The gravimetric method followed was one given by Clarke and Henz[9] and used by Landrum[10] in the analysis of enamels. The antimony was precipitated by H_2S, dissolved in yellow ammonium sulphide reprecipitated by hydrochloric acid, and the pentasulphide reduced to the trisulphide by heating in a stream of CO_2 at a temperature of 230°C. In three successive determinations, 34 mg., 33.7 mg., and 31 mg. of Sb_2S_3 or 26.5 mg., 26.3 mg. and 24.2 mg. of metallic antimony were obtained.

Since only small amounts of so strong an acid as 4 per cent acetic would ever be eaten at one time, an investigation as to the amounts of antimony dissolved by foods cooked in such dishes was undertaken.

It was first necessary to find a method by which the organic matter

[8] Stieglitz, *Qual. Anal.*, 2, p. 107.
[9] Treadwell, *Quan. Anal.*, p. 188.
[10] Trans. Am. Cer. Soc., 12 (1910), p. 144.

of the foods could be oxidized without volatilizing the antimony, and by which the antimony could be recovered quantitatively. W. Schmitz[11] in analyzing rubber goods for antimony destroyed the organic matter by a modified Kjeldahl oxidation. To test out this method 31.8 mg. and 54.6 mg. of Sb_2O_3 were added to two portions of boiling grape juice. The grape juice was transferred to Kjeldahl flasks and 20 cc. of sulphuric acid added together with a very small drop of mercury. The flask was then heated on a sand bath until the organic matter was completely charred. Considerable foaming occurred during this process, so that constant watching was necessary to prevent loss. Later this difficulty was largely overcome by evaporating the fruit juice to about 20 cc. before adding sulphuric acid. After charring, more acid and 2–5 grams of potassium sulphate were added and the flask again heated till a clear solution was obtained. In this solution the antimony was determined by a carefully controlled iodine titration.[12] It was first cooled and then diluted sufficiently to prevent charring of the tartaric acid which was added to keep the antimony in solution. Finally the mercuric sulphate was reduced to metallic mercury, and the pentavalent antimony reduced to trivalent by the addition of 1–2 grams of potassium bisulphite. After heating again on the sand bath until the sulphur dioxide was completely driven off, the contents of the flask was made up to 250 cc. and filtered.

The determination was then completed according to the volumetric method given by Mohr. Two hundred cubic centimeters of the filtrate was just neutralized with sodium carbonate, made alkaline with a saturated sodium bicarbonate solution, and titrated with $\frac{N}{10}$ iodine. A better end point was obtained by adding an excess of about 0.5 cc. of iodine, and titrating back to the disappearance of the blue color.

In addition to these two experiments 173 mg., 96 mg., and 33 mg. respectively were dissolved with tartaric and dilute sulphuric acids, and the solution neutralized and titrated as before. The results from these five determinations checked within 0.2 per cent.

The method having been satisfactorily tested, foods were cooked in the dishes containing antimony, and the amounts determined as described. First, acid fruit juices—cider, grape juice, and cranberry pulp—were tried. Finally, spinach and milk were cooked in the dishes.

In the first series of experiments two new dishes were used, one 37 sq. cm. larger at the bottom than the other.

[11] Gummi, Ztg. 25 (1913), p. 1928.
[12] Sutton, *Vol. Anal.*, p. 151.

One hundred and fifty cubic centimeters of grape juice diluted with 100 cc. of water, 250 cc. of cider, and 200 cc. of cranberry pulp in the order given were boiled for forty-five minutes in each of the two dishes. The fruit juice was then transferred to a Kjeldahl flask and the analysis carried out as previously described.

The amounts of antimony obtained were as follows:

From the smaller dish the grape juice extracted 6.2 mg., the cider 6 mg., and the cranberries 14.1 mg. From the larger dish, grape juice dissolved 3.3 mg., cider 3.6 mg. and the cranberries 9.4 mg.

The first point noted in these results is that the smaller dish yielded greater amounts of antimony than the larger. This is probably merely due to the fact that the cheap dishes are not always equally well fired, and consequently the enamel is not equally resistant to solvents.

The effect of these fruit juices on the appearance of the enamel was as marked as when 4 per cent acetic acid was used. The first cooking with grape juice removed the gloss and after the cranberries had been boiled in the dish the enamel felt rough and the fingers were whitened when rubbed across it.

The large amount of antimony found in the cranberries is interesting. Mavasuer also found in experimenting on lead glazes that cranberry sauce dissolved relatively large amounts.[5] It is quite probable in this particular case that a thick pulp like cranberry sauce would, in boiling, actually rub off some of the enamel. Some of this antimony may not be in solution but simply held in suspension.

In the next group of experiments 250 cc. of undiluted grape juice and an equal amount of cider were boiled for forty-five minutes, four successive times in two dishes of exactly the same size and shape. This was to find whether the amounts of antimony dissolved increased or diminished each time the dish was used.

The amounts extracted by the cider were 2.5 mg., 5.5 mg., 3.3 mg. (some of the cider was lost in oxidation) and 7.8 mg. In the case of the grape juice 8.3 mg. were dissolved in the first cooking and 10.8 mg. in fourth.

These results show that for the first few times at least, the amounts of antimony dissolved increased each time the dish was used. This increase would probably not continue indefinitely, however.

The acidity of the grape juice and cider was determined by titrating with $\frac{N}{10}$ sodium hydroxide, using phenolphthalein as indicator for the cider. None was necessary for the grape juice. Undiluted grape

juice was found to have an acidity of 0.14 normal, the cider was 0.10 normal.

In comparing the solvent action of these fruit juices with that of 4 per cent acetic acid which is 0.67 normal, the weaker fruit juices seem to be much more effective. The largest amount of antimony dissolved in 1500 cc. of 4 per cent acetic was 26 mg., while 250 cc. of grape juice removed 10.8 mg. and 200 cc. of cranberry pulp contained 14 mg. It would not be fair to compare these results directly since there was relatively much more surface exposed to the small amounts of grape juice and cranberries than to the 1500 cc. of acetic acid; it would seem reasonable, however, that since antimony forms a large number of soluble organic compounds, these fruit juices should be very effective in dissolving this substance.

In a third experiment 125 grams of spinach (about one medium serving) was cooked in two dishes which had already been used for the fruit juices; 250 cc. of water was added and the vegetable cooked twenty minutes, after which the liquor and solid spinach were transferred to separate flasks.

In one case the liquor contained 7 mg. antimony, the solid spinach, 2.7 mg.; in the second case the liquor contained 3.9 mg., the solid spinach 2.3 mg.

A question arose as to the effect of the iron in spinach on the accuracy of these results. Clarke says that traces of iron need not be considered in this determination.[13] To make certain, a dilute solution of ferric chloride was acidified, reduced with potassium bisulphite, neutralized, and titrated with iodine. The first drop turned the solution blue, so it was not considered necessary to make any correction for iron in the spinach. The other foods contained smaller amounts of iron.

Finally 200 cc. of sweet milk was boiled in each of the two dishes used for spinach, for a period of ten minutes, and then allowed to stand for an hour and a half. The results obtained here were 3.1 mg. and 2.3 mg. of antimony respectively, less than from the other foods but still considerable.

Summarizing briefly the results of cooking various foods in these dishes, it was found that in every case some antimony had been dissolved. Various factors seemed to influence the amount—namely, the acidity, the number of times the dish had been used, the amount of abrasion due to food rubbing against the enamel, and probably the tem-

[13] Sutton, *Vol. Anal.*, p. 152.

perature and the length of time food was left in the dish, although no experiments were performed which directly proved these two latter points.

The fact that this particular enamel is so readily attacked would probably prevent its use by intelligent housewives, but among the poorer, less intelligent women it might be used without question. If the presence of antimony in foods is harmful, certainly the sale of such dishes should be checked.

As to the physiological effects of antimony, very little seems to be known except that antimony compounds act as emetics. I understand that the Public Service Health Laboratory is making a study of the toxicity of antimony compounds. According to the 1914 edition of Hare's *Therapeutics*, the medicinal use of antimony is no longer in favor with physicians. He says,

> Tartar emetic is harmful if irritation of the stomach is present, or if renal inflammation is present. If one good sized emetic dose is not sufficient to produce vomiting it should not be repeated, but some other emetic or the stomach pump be used, lest antimonial poisoning complicate the case. The emetic dose must be large enough to be effective or none at all should be given. If this rule is disregarded, systemic changes come on with undesirable severity in those cases where emesis fails to occur because of small doses.[14]

In Bulletin 96 of the U. S. Public Health Service Hygiene Laboratory for 1914, a warning was given to mothers against the use for milk bottles of rubber nipples containing antimony.[15] From six grams of the shredded rubber, subjected for one and one-half hours to normal saliva and saliva acidified with lactic acid, 0.1 mg. and 0.8 mg. respectively were dissolved. As a result of these experiments it was concluded that the use of such nipples might be dangerous.

The average dose of tartar emetic as given by the U. S. Pharmacopœia is 30 mg. for an adult and 3 mg. for a 15 pound infant, or 5 mg. and 0.5 mg. of metallic antimony respectively. On the basis of these figures $\frac{4}{5}$ cup (200 cc.) of cranberries contained almost 3 adult doses of antimony and $\frac{4}{5}$ cup (200 cc.) of milk contained six times an infant's dose.

It seems that this question of the physiological effects of antimony should be further investigated. We should know also how general has become the use of antimony in enameled ware.

[14] Hare, *Textbook of Prac. Ther.*, 1914, p. 91.

[15] U. S. Pub. Health Service Lab. Bul. 96, p. 56, 1914.

THE TRAINING OF THE COUNTY AGENT

KATHARINE A. PRITCHETT

State Agent in Charge Home Economics Extension, Maryland

Let us define the term "County Agent." A county agent is one who demonstrates, both practically and scientifically, subjects which pertain to home and community betterment. She may give these demonstrations to groups or clubs, or she may demonstrate to the individual farm woman or girl in the home. Before she can do the latter she must gain the confidence of the housewife. Often some simple service rendered the housewife at the psychological moment in a quiet, unobtrusive manner opens up the pathway to her heart. She resents the teacher, but she soon learns to welcome the coöperator and helper. Once the county agent has proved her ability in these capacities, she becomes a source of inspiration, then a counselor, and, as her field of activities leads her from the home into the community, she becomes a leader among the women of her county.

The problems confronting the county agent are as broad and as comprehensive as the family, the home, and the community. To meet these problems successfully she must possess a personality which disarms criticism and arouses enthusiasm, a power to sense situations quickly, and an adaptability which enables her to render the most humble service with a willingness that wins admiration.

When the work began, some thirteen years ago, the woman with practical experience in gardening, canning, and kindred subjects, who had the ability to gain the confidence of the farm woman, met the requirements for the position of county agent. During the succeeding years the work has developed until now the county agent's activities are highly diversified. She may give a canning or a gardening demonstration in the morning, a lecture on "Foods in Relation to Disease" before the Civic Club in the afternoon, and in the evening she may show the farmers and their wives how they may have running water in their homes.

The mail also proves very interesting. A letter may be received kindly requesting "the very best and latest methods of preserving eggs;" a postal, "please forward detailed information on coöperative marketing. Sincerely yours," etc.

Should one enter upon such a large field, presenting so many prob-

lems and possibilities as extension work, without the broad training of both the world and the school? Is this training to be only along the lines of household science? She who is to enter into so many household activities must have a broad training in household science and theory as well as practice if she is to compete wth these activities successfully. But this is not all. The training of the county agent must be such as to broaden her sympathy for humanity, develop tact and self-control, and inspire her with an enthusiasm which she can pass on to others.

If, through a demonstration or lecture, a county agent can create a demand for the best in labor-saving devices and so lessen the expenditure of energy of the housewife; or create a desire to break from hampering traditions and methods of work or to grow a vegetable garden that the family may have a more wholesome diet; or awaken the family to a greater realization of their ability to help the community; or if she can transfigure drudgery—if she can do any one of these—the result is more far-reaching than half a dozen lessons which fail to create a demand for follow-up work. "The best extension service is that which leaves a community doing most for itself."

Practical experience in organizing and developing Home Economics extension work through the medium of the county agent convinces me that the county agent's usefulness to her community is limited only by the amount of her training and experience and by her capacity to sense opportunities to render valuable service to the farm woman.

Does the training of a county agent affect the general organization? Undoubtedly. "Organization in the largest meaning of the word is a wise combination of materials, equipment and workers for the purpose." The logical beginning, therefore, for an efficient organization is a scientific selection and assignment of workers who will give unscheduled coöperation and genuine lively and loyal support to the whole movement. Large sums of money, the best and most modern equipment, and most intelligently devised methods of work, will not increase the efficiency of the organization unless the county agent is fitted by nature and training for her duties. The untrained worker may be very practical, and practice is very necessary, but there is the larger side of the work—science—and this is the foundation for all practical work. A knowledge of either phase of the work exclusive of the other is a detriment to the highest development. No county agent should attempt to

instruct a farm woman, who usually has a varied practical experience, until she herself knows homemaking subjects both practically and scientifically.

If the home demonstration movement is to render the greatest service to the people it must be carried on by women fitted into the right place at the right time with the right training, guidance, and supervision. Science or practice alone stands for one-sided work. Science plus practice stands for efficiency.

STANDARD FOR IMPORTED MILK

Canadian health officials and inspectors of the United States Department of Agriculture are coöperating in securing sanitary shipments of milk.

Milk or cream imported into the United States from Canada must comply with the requirements demanded of dairymen by the Dominion of Canada authorities, as well as the requirements of the United States Food and Drugs Act. Dairy products which do not come up to these requirements are stopped at the international border.

Under this arrangement all dairies from which milk is shipped into the United States must attain a well balanced dairy score of 50 on the basis of a possible 100 points. Secondly, the product itself must meet the standards required of milk produced in the United States.

"AN INTERNATIONAL EPISODE"

The JOURNAL readers will remember that the American Home Economics Association voted at the Seattle meeting to become a member of the International Congress of Home Economics that maintains an office at Fribourg, Switzerland. We are glad to print the following letter received in answer to the report of this vote sent by the Secretary to the International Office.

OFFICE INTERNATIONAL DE L'ENSEIGNEMENT MÉNAGER

(FRIBOURG, SUISSE)

Fondé en 1908

FRIBOURG, le 24 February, 1916.

MRS. ALICE P. NORTON,
Hon. Secretary of The American Home Economics Association, Chicago

DEAR MRS. NORTON:

I beg to acknowledge the receipt of your kind letter of February the 1st and am glad to express to you the great pleasure I had in hearing about the vote of the American Home Economics Association seeing that way the opportunity of getting better acquainted with the American workers.

In accordance with resolutions passed by the International Committee at the Congress of Gand (Ghent) 1913 the Societies contributing by an annual subscription of at least fr. 100 shall have the right to be represented by a delegate in the Committee of the International Office. You only need to give your adhesion to the Federation, and as soon as you have proceeded to the nomination of your delegate, let us know your choice.

The library of the Office has now nearly one thousand books dealing with Household Science (in French, German, English and Italian). Till now we have been publishing the new works in each number of the Bulletin but we had no real catalogue. We are just busy elaborating one; as soon as it is ready, we are going to send you a copy that you may choose the books or periodicals you are desirous of obtaining.

Let me thank you very heartily and ask of you to be my interpreter to the Managing Editor and the other members of the Editorial staff for the very kind notice concerning our International Office in the JOURNAL OF HOME ECONOMICS, January, 1916. We shall be very glad to take up as soon as possible our regular activities.

Assuring you of my respectful consideration, I remain

Thankfully yours,

Le Directeur,

(Signed) LEON GENOUD.

AN OUTLINE[1]

EDUCATION FOR THE HOME

1. The Family as an Institution
    1. Nature and history
    2. Legal regulation of marriage and divorce
    3. Reciprocal duties of husband and wife
2. Public and Private Aspects of Parenthood
    1. Ante-natal conditions
    2. Care of the child
    3. Reciprocal rights of parent and child
    4. Reciprocal rights of community and child
3. The Housewife as Director of Consumption
    1. Choice and maintenance of shelter
    2. Choice, preparation, and care of food
    3. Manufacture and selection of clothing
    4. Management, equipment, service, and accounts
    5. Participation in public control of interests affecting the home, e.g., housing, health, food, industry, education, recreation
4. The Housewife in Relation to Aesthetic, Social, and Ethical Standards in:
    1. Recreation.
    2. Hospitality
    3. Philanthropy
    4. Citizenship

TRAINING ADAPTED TO THE NEEDS OF

1. Domestic Life
    1. Well-to-do woman in her home, i.e., administrator and spender
    2. Independent homemaker with limited income, i.e., housekeeper, cook, nurse, dressmaker, and cleaner
2. Gainful Employment
    1. Teacher of Home Economics and Household Arts
    2. Institutional manager
    3. Dietitian
    4. Visiting housekeeper
    5. Investigator
3. Effective and Progressive Citizenship

[1] Presented at the University of Chicago Quarter-Centennial, 1891–1916, by the Department of Household Administration.

FOR THE HOMEMAKER

CLOTHES AND THE INCOME

CHARLOTTE GIBBS BAKER

Woman's freedom from many of her former household duties has left her chief spender for the family. Many women who have not found more profitable use for their time make spending their chief occupation, and clothes the chief object of that spending. That the family income is not always wisely spent goes without saying; that there is an enormous waste in the expenditure for women's clothes all will agree. For those who seriously try to spend wisely, the problem is complicated by those who spend foolishly, as the demands of the latter help determine the offerings of the market, and influence the rapid changing of the fashions.

Statistics and budgets show that from five to twenty per cent of the family income is expended for clothes. Five per cent in the case of the very small income where the standard of dress in necessarily low, twenty in the case of the family of moderate income whose social standards make heavy demands on the wardrobe. These statistics however do not show with what success the family is clothed on these different amounts, and obviously there is a great variation in the results obtained by different women with the same amount of money.

If clothing were to be supplied for protection only, the problem of making the dress budget fit the income would not be difficult even in families of very moderate means. It is the demand for decoration, novelty, variety, and style, and the ever increasing demand for different dress for different occasions which makes the struggle never ending. It is the ever present desire on the part of a certain type of women to do as do the leaders of fashion, the actresses, and others in the limelight, which causes much of our inappropriate dressing. Women whose social demands do not require elaborate clothes wear them on the street, and strain every nerve, as well as the family purse, to keep up to the top notch of fashion.

The woman who spends wisely for clothes not only knows how to buy, but has definite ideals for her goal. The success with which she clothes the family depends on her personal taste and, in case the income is limited, upon her skill. This skill need not necessarily be skill in needlework, but skill in making the best of what she has, in combining materials, in utilizing left overs, and, most of all, in bringing out the personality of the individual by the clothes she wears. If fashion alone is the guide, extravagance and waste will result, and, while the family may be well dressed according to one standard, they may be exceedingly commonplace and utterly lacking in individuality of dress.

For a long time the schools tried to make up for the lack of home training by teaching sewing in the class room, feeling that by this method they were solving the clothing problem. They are now fast coming to see that the clothing problem is a much larger one, and that the knowledge of sewing is not necessarily the most needful thing. As much of the food formerly prepared in the household is now prepared outside, so much of the sewing has passed out and it can not be brought back, nor is it necessarily desirable that it should be. After sewing, the next thing taught was the study of textiles in order to give the buyer better standards in choosing materials. Now costume design, the study of hygiene, and the cost of clothing have been added, and the attempt is being made to set better standards in the whole problem of dress.

The clothes worn by many of our high school girls at the present time do not speak well for the standards of their mothers, or for the standards of the coming generation of mothers. It is with these girls that the ground is fallow for the planting of the seed, but those who plant must do so carefully. The shop girl is often blamed for the inappropriateness of her dress, but, if all women who shopped set a good example, there would probably be little need to criticize the girl behind the counter.

In spite of the fact that the streets are thronged with extravagantly and inappropriately dressed women, it is true that more and more women do dress appropriately. More and more women are studying the clothing budget seriously and are buying intelligently. At conventions of thinking women the appropriate, well groomed, inconspicuous dress of the majority shows a great improvement over the dress of such meetings not many years ago. Such women have studied the dress problem and found that a harmonious costume of good material, well made, following the more conservative lines of the fashion, may be

worn on many occasions. They have found that one costume which is perfect in all its details is better than several not so perfect. They have learned that dress should emphasize and not subordinate personality.

For the woman who is limited in her expenditures the problem is of course harder, and the need for skill greater. Here, too, a few well made clothes, not extreme in style and chosen with due regard to the occasions on which they must be worn, seem most desirable. Care in selection should be exercised so that one hat may be worn with more than one dress, that gloves and other accessories, and all the different parts of the costume may be harmonious. In the choice of color and material those things should be bought which will be appropriate to most occasions. A few well chosen accessories of good quality may be used over and over and in the end prove less extravagant than cheap ones.

The keeping of a clothing budget is exceedingly helpful, particularly in showing from year to year what things were economical and what extravagant. Each problem is an indivdiual one and must be studied as such; a rule which works for one person may not work for the next. It may be great economy for the woman at home, who is skillful with her needle, to have several inexpensive dresses which she makes for herself, while for the next woman it is much better economy to have one good dress made to order. For one, ready made clothing may be very satisfactory, for the next not at all so.

Women are too likely to think of economy only in terms of dollars and cents. In comparing the cost of different garments the time element is often neglected. To one woman a ready made garment seems expensive because she compares it only with the cost of the material in a garment she herself makes, while she considers an article on which she has put hours of time cheap, if the cloth did not cost much. The length of life of a garment, the satisfaction gained from it, and the cost of maintenance must all be considered. A cotton and wool skirt may be inexpensive in the first place, but is a poor investment if it must always be at the pressers. Neither does a cheap dress that hangs in the closet because one does not like it prove an economy.

More training along artistic lines would undoubtedly lead to a better appreciation of the beautiful in dress, and consequently a reaction against the grotesque, as we often have it in our current fashions. One has only to look at an average collection of old photographs to see how much of the popularity of many of our designs in dress is due solely to

fashion, and not to intrinsic beauty. The original design of a costume worked out in beautiful materials by an artist, for a particular individual may have been beautiful. Modified for fat or slim, reproduced in inexpensive materials by the ordinary dressmaker, the beauty is often entirely lost, and, as a result, when the fashion passes the dress is useless.

It is only when we have high standards for our clothes, together with considerable knowledge of buying and skill in planning, that we can, with a limited income, get the very best results in dress. We need to spend less time and money and more intelligent thought on our wardrobes if we are to have time for the many other things so well worth doing.

CLOTHING BUDGETS

The following estimates for clothing budgets are taken from a leaflet prepared by the head of the Personal Service Bureau at Filene's in Boston. A comparison between this budget, with everything purchased readymade, and that of the Montana student, published in the April JOURNAL and commented on in this issue, where everything was made at home, shows that the total expenditure for each is about equal, but that the amount is differently distributed.

The following is one of the suggestions made to help in planning the budget.

In working out your plan, decide definitely whether your outfit is to center around a suit or a coat. If you have decided that it is to be a suit, purchase up to it in every detail, eliminating every other type of dress or costume. If it is to be a coat, dresses and accessories must be developed in your plan.

These plans may be rotated very effectively, working out one type of costume one year, the other, the following year, being careful to make harmonious selections that may later be combined together. The budget, of course, assumes some clothing on hand and represents the purchase for one year.

The prices given are those for which the goods were actually sold.

Seventy-Five Dollars A Year

For Coat and Dress Plan

Coat		$10.00
Homespun, which may be worn for all occasions*		
Dresses		19.75
Serge or corduroy*	$5.00	
Dancing frock, must serve two years*	9.75	
Linen or cotton dress for summer*	5.00	
Skirt		2.50
White or colored for summer		
Waist		2.00
One new one, with what we have		
Hats		5.00
Purchased a velvet or velour last year ($5), and will buy a good Panama this year to serve two years		
Corsets. One pair at		2.50
Repair last year's for alternate days		
Shoes		8.29
1 pair high boots, winter	$4.00	
1 pair Oxfords, summer	4.00	
1 pair rubbers*	.29	
Hosiery		2.50
If 9 pairs were purchased last year, plan on 6 pairs		
Underwear		9.25
Knit, 3 vests at 25 cents each	$0.75	
2 union suits at $1 each	2.00	
Muslin, 3 envelope chemises at $1; 2 corset covers at 25 cents	3.50	
3 night-gowns at $1 each	3.00	
Gloves		4.50
Summer, 1 pair silk	$1.00	
2 pairs fabric*	1.00	
Winter, 1 pair for business	1.50	
1 pair for dress	1.00	
Petticoat		1.00
Sateen, blue or black		
Sweater*		2.00
Sundries. Repairs, etc		5.70
		$74.99

The Tailored Type of Outfit

Suit, blue serge or cheviot*		$12.50
Waists		9.90
3 cotton, $1 each	$3.00	
1 wash silk	2.95	
1 crepe de chine	3.95	
Hats		5.00
Repair last year's hats for everyday wear. Purchased a good Panama ($5) last year, which, with renovating, will serve this summer. A good velour or velvet purchased this year will serve next year.		
Corsets. One new pair		3.50
(Repair old pair to wear alternately)		
Shoes		8.29
1 pair high boots	$4.00	
1 pair Oxfords	4.00	
1 pair rubbers*	.29	
(Make pair of shoe trees)		
Dress		
Dinner or dancing frock, last year's		
Hosiery		3.75
9 pairs (guaranteed)		
Underwear		9.25
Knit, 3 vests, 25 cents each, 75 cents; 2 union suits, $1 each, $2		$2.75
Muslin, 3 envelope chemises, crepe, $3; 2 corset covers, 25 cents each, 50 cents; 3 nightgowns, $1 each, $3		6.50
Gloves		5.50
1 silk, for summer	$1.50	
2 fabric, for summer, 50 cents each	1.00	
1 dress kid, winter	1.50	
1 business pair, winter	1.50	
Skirt		3.50
White pique, or linen for summer		
Petticoats		2.00
Sateen, blue or black	$1.00	
2 white cotton crepe	1.00	
Sweater, purchased last year		
Negligee		2.00
Sundries. Repairs, etc		9.81
		$75.00

*The articles marked with a * were purchased at a basement sale.

This further estimate of the per cent to be used for each type of clothing in different budgets is suggestive.

SEVENTY-FIVE DOLLARS A YEAR

Tailored Type		*Coat and Dress Plan*	
Hats, Suits, Skirts, Waists	47.9 per cent Outer clothes	Coat, Dresses, Skirts, Hat, Sweater, Waists	55 per cent Outer clothes
Negligee, Underwear, Corsets	21 per cent Under clothes	Negligee, Underwear, Corsets	17 per cent Under clothes
Shoes, Stockings, Rubbers	16 per cent Protection clothes	Shoes, Stockings, Rubbers	14.4 per cent Protection clothes
Gloves, Neckwear, Repairs	15.1 per cent Sundry clothes	Gloves, Neckwear, Repairs	13.6 per cent Sundry clothes

NOT OVER $400 A YEAR

Tailored Type

Hats, Coats, Suits, Dresses, Sweater, Skirts, Waists	53.3 per cent Outer clothes	Shoes, Rubbers, Hosiery, Umbrella, Sunshade	12.8 per cent Protection clothes
Negligee, Underwear, Corsets, Brassieres	16.2 per cent Under clothes	Neckwear, Gloves, Repairs	17.7 per cent Sundry clothes

A CAMP FOR COMMUTERS

Amusement parks, recreation grounds, and orchestral concerts are no novelty in the plans which street-car lines have tried as a means of increasing the volume of their business. Camp homes for people who must spend their days in the city during the summer are more of a novelty, but suggest an enterprise which, properly operated, might be very desirable.

Such a summer camp, called "Tent City," has been operated for two years by one of the Washington, D. C., street railways. The attendance last summer was 150 persons for week-ends and 75 for a week or more, which was somewhat greater than the preceding summer. The "Tent

City" occupies an open, wooded hilltop near the terminal of the street railway and is very pleasantly situated, overlooking, as it does, the Great Falls of the Potomac. The frequent street-car service makes it convenient of access and the fact that the road passes through some beautiful Virginia country makes the trip to and from the city more agreeable for commuters.

The "Tent City" consists of a group of some 25 tent cottages scattered in regular order over the grounds. Each tent has a wooden floor and a large back porch, is electrically lighted, and is furnished with enameled bedsteads, blankets, bed linen, towels, rugs, wash hand stand, chairs, etc., in fact, a reasonably generous equipment for camping-out purposes. Arrangements are also made for maid service. Shower baths are provided for the residents and several toilets are conveniently located in the camp. The camp water supply comes from a spring which is said to be free from contamination, a statement probably true since there are no houses in the immediate neighborhood and the ground is high. Ice is supplied free for cooling the drinking water. There is a café in the camp—an open, wooden building—where meals are served at moderate prices. If one does not care to patronize the café, light housekeeping is permitted in the tents. Considering all that is provided, the rates, which are $5 per week per tent regardless of the number of occupants, or $15 per month, are not high. If the occupants prefer light housekeeping, an additional charge of 50 cents per week is made for an extra tent with open sides and fly top, for cooking purposes. The sides could be closed in with mosquito netting without difficulty and this might reasonably be expected from the management. Thorough screening of the kitchen and the dining pavilion should be insisted upon, not only for the comfort of the diners but more for their protection from flies, now absolutely known to be one of the most dangerous pests of a summer outing. Large flytraps of the sort used so often in municipal campaigns against flies would help greatly to diminish the number of flies, and their use should not be overlooked.

It is generally recognized that those who go into the country for summer outings, particularly in states and regions where health regulations are either inadequate or not well enforced, run a decided risk of typhoid and other diseases, including the sometimes mild and the sometimes violent disturbances we know as "summer complaint" and "ptomaine poisoning;" and a colony such as "Tent City" is of course subject to the usual dangers of temporary life in places not thoroughly equipped with

sanitary conveniences and not subject to strict accounting under municipal health regulations—though it is only fair to say that in this instance more has been done than in many a more pretentious summer colony.

The idea which has been developed here seems a good one and there is no reason why it should not be improved and carried out further. So arranged, an open-air place for spending leisure evenings, week-ends, or longer periods, is bound to benefit many who could not leave the city to escape the hot weather. Its moderate price makes it accessible to many. Generally speaking, it seems a logical development of the present rather widely spread movement for private camps located on river banks and hillsides, lakes, and elsewhere, which are now so commonly found near numbers of our large cities, where the mothers and children can spend the entire day, while the members of the family who must go to town to work, can make the journey to and fro easily, quickly, and at little expense.

SOME OTHER EXPERIMENTS ON THE COMPARATIVE COST OF HOMEMADE AND BAKER'S BREAD

MAY B. VAN ARSDALE AND DAY MONROE

Teachers College, Columbia University

Having read with great interest the article on the comparative cost of homemade and baker's bread, by Annabelle Marsh, in THE JOURNAL OF HOME ECONOMICS for January, 1916, we are more than ever impressed with the difficulty of standardizing such experiments so that the results obtained may be fairly compared. The cost of material from time to time, the richness of the recipe, the brand of yeast, the amount and kind of fuel used, and the basis upon which it is calculated, all being so variable, give rise to many different results. Therefore it may be of interest to the readers of the JOURNAL to consider a series of experiments which were carried on through a number of successive years, and under varying conditions, which have resulted in quite different conclusions from those drawn in the article above mentioned. The work was done by Miss Lucile French and Miss Elsa Frame in classes in experimental cookery.

In all of our experiments the cost of homemade and baker's bread per pound has amounted to almost exactly the same figure, that is six cents. In these calculations the cost of the fuel has been considered but no value has been placed on the woman's time. The following are some of the results from which our conclusions were drawn:

Table showing the cost per pound of baker's bread purchased in New York City and vicinity

COST	WEIGHT IN OUNCES	COST PER POUND
$0.10	20	$0.08
.10	27.2	.058
.10	21.5	.074
.12	29.1	.065
.05	13.0	.061
.10	24.6	.065
.05	15.5	.051
.05	11.5	.069
.05	12.5	.064
.05	14.0	.057
.05	13.5	.059
.10	22.0	.073
.05	14.7	.053
.05	12.8	.062
.10	23.0	.069
.05	11.7	.068
.05	13.5	.059

Least for five cents.....10 oz.
Most for five cents.....15.5 oz.
Average cost per pound.....$.063

In our laboratory experiments bread was made by several different methods, varying especially the amount of shortening and milk. By such variations in the recipe we found that the lowest price per pound, with the use of water and of lard for shortening, was about $0.035, minus fuel, and the highest price per pound was about $0.075.

On the basis of the following recipe, which we consider typical, the cost of a pound of bread, not including fuel, is $0.059, which is, we believe, about the best figure per pound for a loaf of bread made in the home, which will compare favorably with good baker's bread:

½ cup milk	½ teaspoon salt
½ cup water	½ tablespoon butter
½ yeast cake	½ tablespoon lard
1 tablespoon sugar	3½ cups flour (maximum)

All of these calculations are made on the basis of a four loaf batch to which one whole yeast cake was used. It may be argued by some that bread made in such small quantities will be high in price, and so in order to check up these results we utilized one barrel of flour for the purpose of bread making, keeping account of all ingredients added, using proportions stated in the recipe above. On the basis of one barrel of flour the cost of the bread per pound, without fuel, was $0.054, which compares favorably with that of the four loaf batch cited above.

Averaging the price obtained from the small quantity method, and that from the large quantity method, we have an average price per pound for a loaf of homemade bread, without fuel, of $0.056.

All of our fuel calculations are based upon starting with a cold stove, whether coal, gas, electricity, alcohol, or kerosene, heating the oven to the desired temperature for bread, and baking for about fifty minutes. This method is obviously a bit unfair to the coal stove which in many kitchens would remain hot during the entire day, and could be utilized for bread baking at any time.

On the above basis our quantitative measures for fuel added to the above cost per pound the following cost for the various fuels:

Coal	$0.0048
Gas	.004–.006
Kerosene	.0048

or an average of about ½ cent per loaf for the common fuels.

This makes the cost of homemade bread, including fuel, about $0.06 per pound, almost exactly the cost of a baker's loaf per pound.

STUDENTS' CONTRIBUTIONS

COST OF BREAD

E. S. BURNHAM

University of Chicago, 1913

This work was done in 1913 at the University of Chicago under the direction of Elizabeth C. Sprague, now head of the Department of Home Economics at the University of Kansas.

Recipe for small loaf and for 1 lb. loaf of bread

INGREDIENTS	FOR SMALL LOAF (264 GMS. AV.)		FOR 1 POUND LOAF	
	Measure	Weight	Measure calculated	Weight
		gms.		gms.
Liquid	½ cup (118½ cc.)		203.8 cc.	209.84
			about ⅞ cup	
Fat	1 tbsp.	7.03	0.86 tbsp.	12.09
Sugar	¼ tbsp.	2.187	0.43 tbsp.	3.76
Salt	⅜ tsp.	1.687	0.64 tsp.	2.90
Flour	1½ cups	178.0	2.7 cups	306.16

Weight of flour to weight of loaf 178: 264 or 0.6742: 1.
For a 1 pound loaf 0.674 pounds of flour.
Weight of small loaf to weight of pound loaf 264: 454 or 1: 1.72.

Amount of various ingredients which may be used in a pound loaf, the amount of protein in grams, fuel value and cost of each

INGREDIENTS	AMOUNTS					
	Measure	Weight	Protein	Calories	Cost	Market value
		gms.	gms.			
Whole milk	203 cc.	209.84	6.93	152.2	$0.0172	$0.08 (qt.)
½ Whole milk		104.92	3.46	75.1	.0086	.08 (qt.)
Skim milk	203 cc.	210.94	7.17	79.	.0107	.05 (qt.)
Evaporated milk	3½ tbsp.	54.52	5.23	93.67	.0120	.10 (16 oz.)
Condensed milk	1⅔ tbsp.	26.7	2.35	89.3	.0067	.10 (14 oz.)
Sugar		3.76		15.	.00045	.05½ (lb.)
Salt		2.90				
Lard		12.09	0.24	106.8	.00399	.15 (lb.)
Butter		12.09	0.12	96.	.00957	.36 (lb.)

Amount of various ingredients which may be used in a pound loaf, the amount of protein in grams, fuel value and cost of each—Continued

INGREDIENTS	AMOUNTS					
	Measure	Weight	Protein	Calories	Cost	Market value
		gms.	*gms.*			
Flours						
Ceresota	2.7 cups	306.16			.01806	5.25 bbl.
Lily White	2.7 cups	306.16			.01548	4.50 bbl.
Soft Sp. Wheat	2.7 cups	306.16			.01376	4.00 bbl.
Baker's $4	2.7 cups	306.16			.01376	4.00 bbl.
Baker's $3	2.7 cups	306.16			.01032	3.00 bbl.
High Grade Patent			35.82	1112.7		
Baker's Grade			40.719	1122.8		
Low Grade			42.86	1122.8		
Yeast					.0025	

Food value and cost of a pound loaf of bread based upon the various ingredients used

DIFFERENT KINDS OF BREAD	PROTEIN	CALORIES	COST
	gms.		
1. Whole milk, butter and Ceresota flour	42.87	1373.9	$0.04778
2. Whole milk, lard and Ceresota flour	42.99	1384.7	.0422
3. Skim milk, lard and Ceresota flour	43.23	1313.5	.0357
4. ½ Whole milk, lard and Ceresota flour	39.52	1309.6	.0336
5. Evaporated milk, lard and Ceresota flour (Milk and water 1:3)	41.30	1328.2	.037
6. Condensed milk, lard and Ceresota flour (Milk and water 1:9)	38.41	1323.8	.0317
7. Skim milk, lard, Baker's grade	48.13	1323.6	.03312
8. Skim milk, lard, Baker's grade $4			.0314
9. Skim milk, lard, Baker's grade $3			.02796
Skim milk, lard, Baker's low grade	50.27	1326.62	
10. Water, lard and Ceresota			.025
Water, lard and high grade patent	36.06	1234.5	
11. Water, lard and Lily White			.02242
Water, lard and Baker's grade	40.96	1244.6	
12. Water, lard and Baker's grade $4			.02070
13. Water, lard and Baker's grade $3			.01726
Water, lard and low grade flour	43.10	1244.6	

NOTE.—In making general estimates of cost and food value Ceresota was considered as a high grade patent, Lily White as a Baker's grade, and Baker's $3 as a low grade flour. The amount of protein and fuel value was estimated from the table in Chemical Composition of American Food Materials, Bulletin No. 28.

GENERAL CONCLUSIONS REGARDING NUTRITIVE VALUE AND COST OF "STANDARD LOAF"

The best loaf for home use seemed to be one made with skim milk, lard, and high grade patent flour. This had an excellent flavor, was fine grained, light and well raised, tender, of good color, and of moderate cost. For this reason this loaf was used as a standard of comparison.

Comparison of several kinds of white bread. Each comparison is with the "standard loaf"

VARIATION IN INGREDIENTS	VARIATION IN QUALITY OF BREAD	VARIATION IN PROTEIN CONTENT	VARIATION IN COST
Whole milk for skim	Slight improvement in flavor and texture	Little change	Raises, 18%
Butter for lard	Slight improvement in flavor and texture	Little change	Raises, 16%
With both whole milk and lard	Slight improvement in flavor and texture	Little change	Raises, 34%
Water for milk	Slightly darker, grain little coarser	Lowers, 16%	Lowers, 30%
Potato water for milk and water	Slightly darker, grain little coarser; rises more quickly	Lowers, 16%	Lowers, 30%
Evaporated milk (1:3)	Darker, little flavor of milk	Lowers, 4½%	Raises, 5½%
Condensed milk (1:9)	Good bread, not quite so good flavor	Lowers, 11%	Lowers, 11%
Lily White for Ceresota	Slightly drier, flavor not so good	Raises, 11%	Lowers, 7%
Lily White and water	Flavor not so good, more like Baker's bread	Lowers, 5%	Lowers, 37%
Water and low grade flour	Darker, flavor not so good. Fair bread.	Same	Lowers, 40% to 50%
Low grade for Ceresota	Darker, flavor not so good. Moist good bread	Raises, 16%	Lowers 12 to 21%
With no fat	Fairly good bread, not so tender, slightly drier	Lowers, ½%	Lowers 11%,
With no sugar	Slower in becoming light, as well raised, flavor not quite so good.	Same	Lowers, 1½%

EDITORIAL

The Journal as a Medium of Exchange. The following suggestions have been received from one of our correspondents.

I believe that it would help in our immense problem of knowing what each one is doing along lines of work which should be more nearly standardized than they are, if examination questions for courses were published. Perhaps if this were done, people would no longer ask in a course in clothing as one-tenth of the final examination, "In whose reign did people button the toes of their shoes up to their knees?" There are certain courses sufficiently well established, such as textiles, an elementary college course in food study, and dietetics, with the same prerequisites of science, so that these questions ought at least to be suggestive.

Can't you do something in regard to the questionnaire problem? I believe most thoroughly in this means of getting information, but a questionnaire often asks for only part of the information really desired, or else is a duplication to some extent of similar work. Would it be possible for a questionnaire to be published in the JOURNAL before it is sent out, so that if practically the same questionnaire has previously been sent out, or is soon to be sent, the prospective sender may be apprised of the fact, and, on the other hand, people may send in suggestions regarding the questionnaire that would make it of more general value?

The JOURNAL would gladly publish such questionnaires and examination questions, so far as space allows, if this would be of any real help. Another plan would be for each one sending out a questionnaire to deposit one copy in the JOURNAL office and to report the information obtained. A letter to this office from one intending to formulate a new list of questions would secure information in regard to work already done and might prevent repetition of much work. Often it might be possible to obtain the use of material already collected.

We have noted in another column two such questionnaires already received that would be available in this way.

We should like, further, to begin the collection of papers on various subjects, that might be loaned for a small sum, enough to cover postage and other expenses of handling, such as necessary recopying, and that

would be useful as a source of material for talks to be prepared for clubs or conferences, for those who have not ready access to libraries; and that would also serve as a means of information in regard to various types of work. For instance, a short time ago a request came from a teacher for information in regard to cooking in the country schools. If we could have supplemented the references we were able to give her by papers showing work that is being accomplished but that will probably not be published we could have given her more substantial help.

There frequently comes into this office material that is excellent and helpful, but that is either similar to work that we have published or that for some reason does not fit our especial or immediate needs. Often the writers would be willing to have these papers used in the way that has been suggested. With a little coöperation we could have a selection of papers on a number of topics. In a similar way we should be glad to receive copies of examination questions if this is desired.

Comparative Costs. The various results of experiments on the comparative cost of homemade and baker's bread, illustrate the complications involved in what would have seemed to be a comparatively simple problem.

The experiments of Miss Burnham show a variation in cost of 84 per cent with different materials used. That is, taking a so-called "standard loaf" for comparison, and varying the kind of fat, the quality of the liquid, and the grade of flour, she finds that the cost is lowered from $1\frac{1}{3}$ to 50 per cent, or raised from $5\frac{1}{2}$ to 34 per cent. At the greatest extremes of cost, there is little change in the protein content, although in other combinations this is raised or lowered. Though further experiments are undoubtedly needed to verify their accuracy, these results explain easily some of the different conclusions reached.

Another difficulty arises in the cost of fuel, since gas may vary from 25 cents a thousand feet to $1.50 or more, while coal and electricity have almost as great a variation.

The value of the labor involved is still more difficult to determine. A statement was made in one student article published that "the time was not considered at all, for two reasons; first, in doing this work we had in mind the housekeeper; preparation of foods is a part of her profession and therefore her time is already paid for. The same thing is true in regard to cooks and maids who are now almost entirely paid by the week and not by the amount of work accomplished." From one

standpoint this would seem perfectly true, but it involves a false economic principle. To realize its absurdity, apply the same statement to each kind of work done. Not only must each task performed bear its share of the total amount expended for labor, but also its share of overhead expenses, including rent and depreciation.

We seem not to have made substantial progress in the fifteen years since the A. C. A. in their report on homemade and prepared food stated:

> Just what the price of a homemade loaf is, and, provided fuel and labor are included in the cost, how nearly this price approximates the price of the article purchased outside of the house, few of even the most practical housekeepers would be prepared to say.

Yet it is as true now as then that

> before practical constructive measures can be taken to simplify and perfect household machinery, there must be an accurate knowledge of the present facts of daily living and of their relation to other phases of the world's activity; for any evolution of housekeeping must be conditioned by the laws that govern the industrial and social world at large.

COMMENT AND DISCUSSION

To the Editor of the JOURNAL:

In the January number of the JOURNAL were published some figures on the cost of homemade and baker's bread which were so different from the results I had obtained that I questioned them. Since then I have kept some data that I am sending.

As will be seen I have two different calculations, one for bread made exactly as Mrs. Marsh made it, the other for compressed yeast bread. I cannot see how she gets 108 ounces of bread from 13 cups of flour. At first I thought probably she used a heaping coffee cup, but, figuring from her cost, she uses 3.3 pounds of flour, and gets $6\frac{3}{4}$ pounds of bread. I wish I could.

Data on home made bread. Quantities and costs, by methods given in the January JOURNAL

Weight of 13 cups flour	52 oz.
Weight of dough when put in pans	80 oz.
Weight of 3 loaves of bread	72 oz.
Cost of bread from 13 cups as given in JOURNAL	$0.1973
Cost of 24 ounces as given in JOURNAL	0.0438
Cost of 1 lb.	0.0292
Cost of 24 ounces (my data)	0.0657
Cost of 1 lb.	0.0438

Compressed yeast bread. (My data throughout)

3 teaspoons sugar at 7½ cents per pound	$0.0025
3 tablespoons lard at 15 cents per pound	0.014
48 ounces flour at 3½ cents per pound	0.105
1 cake compressed yeast	0.02
3 cups liquid. 1½ of milk at 9 cents	0.0375
28 cubic feet gas at 80 cents per 1000	0.0224
	$0.2014

Weight of bread 66 ounces cost	$0.2014
Cost of 24 ounces	0.0732
Cost of 1 lb. (including cost of fuel, not labor)	0.0488

Labor, ¾ hour.

CHARLOTTE G. BAKER.

By consultation with the May JOURNAL it will be seen that Mrs. Marsh's weights were 66 ounces instead of 52. Her weight per cup was therefore above the standard; her price per pound of flour less than that given by Mrs. Baker. This adds emphasis to the difficulty of obtaining satisfactory data on what would seem to be a simple experiment.—THE EDITOR.

Miss Bevier adds these figures that illustrate also the increased cost in a few years.

I. Bread data (for 4 loaves)

Flour, 62 ounces or 3.9 pounds at 3.4 cents per pound	$0.133
Sugar, 8 teaspoons or 1.4 ounces at 5.6 cents per pound	0.005
Crisco, 4 teaspoons or 0.6 ounces at 16.3 cents per pound	0.006
Yeast (compressed), 1 cake at 2 cents	0.020
Total cost of ingredients	0.164
Gas, 28½ cubic feet at $1.00 per thousand	0.029
Total cost of bread	0.193
Weight of bread	85 oz. or 5.3 lbs.
Cost of 24 ounces	0.054
Cost of bread per pound (exclusive of labor)	$0.036

The cost of labor has not been included because of its variability, due to time used and value of workers' time.

II. Bread data from U. S. Dept. Agr., O. E. S. Bul. No. 52. Isabel Bevier 1894–1896

Flour, 47.75 pounds at 2.25 cents per pound	$1.08
Potatoes, 2.32 pounds at 2 cents per pound	0.05
Sugar, 0.28 pounds at 5 cents per pound	0.01
Yeast, 5.19 pounds	0.09
Salt, 0.66 pounds	0.01
Total cost of ingredients	1.24
Weight of bread	65.75 lbs.
Cost of bread per pound (exclusive of fuel or labor)	0.019

The Journal of Home Economics:

In reply to your request, I am forwarding some new material on the cost of bread which merely confirms previous work, with later cost prices. This is the work of the classes in Economic Uses of Foods. These results have been checked and re-checked in class work and so we feel sure of them.

ELIZABETH C. SPRAGUE,
University of Kansas.

Cost and fuel value of one pound loaves of bread (materials without cost of fuel or labor)

NO.	KIND	INGREDIENTS USED	GMS. PROTEIN	FUEL VALUE	COST
1	White Bread	Water, Zephyr Bread Flour, lard, compressed yeast	31.0	1203	0.03218
2	White Bread	Water, White Loaf Bread Flour, lard, compressed yeast	32.0	1213	0.03218
3	White Bread	Water, Gold Medal Bread Flour, lard, compressed yeast	32.0	1213	0.03955
4	White Bread	Water, Queen of Pantry Pastry Flour, lard, compressed yeast	30.0	1203	0.03955
5	White Bread	Skim milk, Zephyr Bread Flour, lard, compressed yeast	39.1	1281	0.03773
6	White Bread	Whole milk, Zephyr Bread Flour, lard, compressed yeast	39.1	1348	0.04788
7	White Bread	Skim milk, Zephyr Bread Flour, butter, compressed yeast	39.1	1281	0.04658
8	Whole Wheat	Skim milk, Whole Wheat Flour, butter	35.0	944	0.03456
*9	Raisin Bread	Skim milk, Zephyr Bread Flour, butter	42.0	1755	0.07163
*10	Cinnamon Bread	Skim milk, Zephyr Bread Flour, butter and eggs	52.0	2027	0.1455
*11	Cocoa Bread	Skim milk, Zephyr Bread Flour, butter and eggs	60.0	2227	0.1629
*12	Nut Bread	Skim milk, Zephyr Bread Flour, butter and eggs	57.0	2159	0.1607

* The fancy breads made from same proportions of liquid average $1\frac{1}{4}$–$1\frac{1}{2}$ pound loaves when baked.

Prices of Flour, 1916

KIND	AMOUNT	PRICE
	lbs.	
Gold medal	48	$2.25
Queen of the Pantry (Pastry Flour)	48	2.25
White Loaf (Local Kansas Wheat Flour)	48	1.70
Zephyr (Local Kansas Wheat Flour)	48	1.70
Whole Wheat Flour	48	1.44*

* Usually priced by the pound, in this case 3 cents.

Prices of other ingredients

MATERIAL	AMOUNT	PRICE*
Whole milk	1 qt.	$0.083
Skim milk	1 qt.	0.025
Butter	1 lb.	0.35
Oleomargarine	1 lb.	0.25
Lard	1 lb.	0.175
Eggs	1 doz.	0.25
Walnuts	1 lb.	0.60
Raisins	1 lb.	0.10
Cocoa	1 lb.	0.45
Sugar	1 lb.	0.05
Cinnamon	1 oz.	0.05
Yeast, Fleischmann's Compressed	1 cake	0.02

* Prices for 1914–15. No changes for 1916 except in sugar.

We have some further experiments on a local Kansas flour, using dry yeast and the long process, showing that a 22 oz. loaf of bread made with milk and potato cost $0.044 (24 oz., $0.048), with potato and water $0.038 (24 oz., $0.0425) and with water alone $0.037 (24 oz., $0.0403). We were comparing this with the 22 ounce 10 cent baker's loaf. We are also comparing the relative volume of the two types of bread but this work is not finished.

THE QUESTION BOX

Conducted by a committee of the Science Section of the American Home Economics Association. Chairman, Prof. Amy Louise Daniels, University of Wisconsin, Madison, Wis. Questions may be sent directly to Miss Daniels.

Question: Will you please tell me about the relative keeping capacity of baking powders: 1. alum, 2. phosphate, 3. tartrate? It seems to me that baking powder should be judged not only on its original price, purity, carbon dioxide capacity when fresh, and physiological effect, but also by its capacity to be stored well covered in a dry place.

Answer: "The keeping qualities of a baking powder must certainly be considered in determining its total value. The bi-carbonate of soda as component of a baking powder is easily obtained in a dry condition. This is true also of the starch used as a filler; and, of course, particular care should be used by the manufacturer to have these constituents as dry as possible. The difficulty of obtaining the acid component in a dry condition varies with the acid component selected, and, when this is cream of tartar, there is no difficulty whatever; and a well made cream of tartar powder has excellent keeping qualities, if properly packaged.

"Dried or burnt alum is not particularly hydroscopic, although the different alums vary in this regard; soda alum is the most hydroscopic.

"Acid phosphates are very liable to absorb moisture; and it is sometimes difficult to dry them thoroughly without, to some extent, reducing their values. This is particularly the case where phosphates and alum are mixed.

"Tartaric acid in the free state keeps very well, if properly protected. It must be recognized that there is no mixture of ingredients in a baking powder which will keep indefinitely without deterioration, under commercial conditions."—A. McGILL, *Chief Analyst of the Inland Revenue Dept., Ottawa.*

Question: "Have you a recipe for making jelly from cactus fruit?"

Answer: Exhaustive studies of the uses of the prickly pear and other cacti for food purposes as well as for feed for live stock have been made by the New Mexico Agricultural Experiment Station and the United States Department of Agriculture, the results being reported in New Mexico Station Bulletin 64, and United States Department of Agriculture, Bureau of Plant Industry Bulletin 74 and 116. These publications can be consulted in most large libraries.

Generally speaking, the cactus fruits, which have many food uses, yield thick sirups or pastes rather than jellies. Whether this is due to a lack of pectin or of acid, or of both, seems not to have been determined. A lack of acid would naturally suggest the use of lemon juice and a lack of pectin the use of an extract of the white portion of the orange peel with the cactus-fruit juice. Red cactus-fruit juice, evaporated to a thin paste, has been used, at least experimentally, to color apple jelly. If one wishes recipes for drying cactus fruits and for making various pastes and sweets from these fruits, they can be found in Bureau of Plant Industry Bulletin 116, mentioned above.

It is possible that further information may be secured from the director of the New Mexico Agricultural Experiment Station, Mr. Fabian Garcia, at State College, New Mexico.

Question: Does the water in which cabbage is cooked, if consumed by some people, act as a poison in the system. If so, why?

Answer: We know of no reason why the water in which cabbage is cooked should produce any ill effects. On the contrary it has been found by McCollum and Kennedy (*Journal of Biological Chemistry*, 24, (1916) p. 499) to contain a substance which, when fed to pigeons suffering from polyneuritis, caused by an exclusive diet of polished rice, effects a cure.

Question: What determines the age at which the average baby can digest hydrated starch, such as is found in barley gruel (Robinson's patent barley flour) which has been boiled in water for twenty minutes?

Answer: The following is taken from Diseases of Nutrition and Infant Feeding, by Morse and Talbot, 1915.

"It has been proved beyond question that amylolytic ferments are present in the saliva and pancreatic secretions of the new-born infant, even if it is born prematurely. The amylase of the pancreatic secretion is more abundant after the first month than earlier. These ferments are present and active in the breast-fed as well as in the artificially fed infant. . . . There are, therefore, no physiological contra-indications to the use of starch in the feeding of infants, even in the new born. This fact does not prove, however, that infants ought always to be given starch or that they should be fed on foods composed largely, or almost exclusively, of starch. It merely shows that there is no reason why starch should not be given to babies if there is any good

reason for doing so. Clinical experience shows that in general it is not advisable to give starch under two months old, although there are many exceptions to this general rule. Clinical experience also shows that it is inadvisable to give large amounts of starch to babies before they are ten months old.

In this connection it is interesting to consider the variations in the amylolytic power of saliva with reference to the age of the infant. According to experiments reported by G. Finizio (*Rev. Hyg. et Med. Infant.*, 8 (1909), No. 3, pp. 224–249), the amylolytic power on an average increases progressively from birth to twelve months, the rate of increase being slower at first than later. Towards the eighth or tenth month the amylolytic power is double that observed during the first eight or fifteen days of life. At the age of one year the amylolytic power is little inferior to that of a child two or three years old and perhaps even to that of an adult. In infants of the same age the amylolytic power of the saliva is not always identical.

Question: If the barley gruel were cooked long enough to change part of the starch to dextrin would it be more easily digested?

Answer: The amount of starch, if any, changed to dextrin even after many hours of boiling (at temperatures above 100°C.) would be too small to have any appreciable effect on the digestibility of the substance in question; furthermore to change the starch to dextrin would defeat the purpose of the starch gruel, namely, to form a colloidal solution which will make the clot formed by the casein more friable. (Southworth: The Influence of Starch on Infant Digestion, *Journal of the American Medical Association*, 63 (1914), p. 1375.

BOOKS AND LITERATURE

Any book or periodical mentioned in this department may be obtained through the JOURNAL OF HOME ECONOMICS if the Journal price is listed.

The Baby's First Two Years. By RICHARD M. SMITH. Boston: Houghton, Mifflin Company, 1915, pp. 156. $0.75. By mail of the Journal, $0.80.

The Baby's First Two Years is a sane, well written and easily understood book, giving information concerning the care and feeding of very young children. The author evidently has had much experience with young mothers, for he answers the many questions which naturally come to the inexperienced. These are presented clearly, concisely, and in such form that they are easily understood by those having no technical knowledge. The book is divided into three parts. Part one is made up of definite rules for the care and feeding of infants up to two years. Part two treats of the care of the mother, the general behavior of the very young child, and the best methods of traveling with infants. Part three gives, besides tables and charts pertaining to the normal development of infants, a full and very definite outline of a typical day in a baby's life. Here, not only the time, but very definite directions for the various processes that have to do with the care of the baby are given.

The description of the nursery, directions regarding the preparations for the new baby and the emphasis placed upon the use of certified milk for the bottle baby, mark the author as one who is not conversant with country conditions, nor with a knowledge of the home conditions of the larger portion of the American homes. The book, obviously, is written for the city mother of considerable means.

In the chapter dealing with infant feeding emphasis is placed upon the value of mother's milk, and suggestions are given for the care of the mother at this time. But the author fails to appreciate that the general composition of mother's milk cannot be influenced by either food or exercise. The statement is made that "the percentage of fat, if low, may be increased sometimes by adding fat to the mother's diet, and by decreasing her exercise. These means are not efficacious unless the mother is underfed and tired. The fat, if excessive, may be reduced by cutting down the amount of meat in the diet and by increasing the exercise to the point of fatigue. . . . . The protein, if high, may be lowered by increasing the exercise, not to fatigue, and by quieting the mind."

The formulas given for artificial feeding contain much fat, more than is advocated by many pediatrists; lime-water is also advised in certain cases of digestive disturbances. These formulas are the least valuable part of the book. However, only very few of these are given, because the author believes that the choice of a formula should be made by a physician. "Each child must have his food adapted to his individual digestive ability."

Students' Manual in Household Arts: Food and Cookery. By MARTHA L. METCALF. Indianapolis Industrial Educational Company, 1915, pp. 229. $1.10. By mail of the Journal, $1.24.

Miss Metcalf's book is not of a new type, but is a good example of the textbook for use in Home Economics classes. The usual ground is covered—the preparing and serving of the various types of food, and directions for the necessary household cleaning

and sanitation. The special value of *Food and Cookery* is the clear, direct presentation of the subject so that it can be made of immediate practical use. For instance, in the chapter on the serving of meals, the fundamental rules which make for an orderly, comfortable meal are given, and the family meal without a waitress considered. More formal service is given brief notice. This is as it should be if the work is to help the average family.

Under vegetables, one finds two classifications—one from the standpoint of nutrition—the other from the standpoint of cookery. These are followed by clear, definite rules for cooking, buying, and storing vegetables. Under milk, the difference between clean and dirty milk might well have received more emphasis, but blank pages bound into the text make convenient the addition of material by the individual using the book.

There are many recipes in good form, with brief and clear directions. Is it worth while to use the abbreviations C for cup, t for teaspoon, T for tablespoon, in printing? Money is not saved by this in printing, as it is in typewriting, and there is a loss in ease of reading except for the person constantly using such abbreviations.

The illustrations are helpful additions to the teaching of the text. Such pictures as that of a manufactured and home made double boiler on page 71; of the refrigerator on page 21; of a coal range on page 31, are very illuminating.

Industrial and Commercial Schools of the United States and Germany. A comparative Study. By FREDERICK WILLIAM ROMAN. New York: G. P. Putnam's Sons, 1915, pp. 382. $1.50.

This book has a value over most other histories and descriptions of the Industrial and Commercial schools in that it considers the personnel of the students and teachers. The material on the Industrial Schools in America is unfortunately not of a sufficiently recent date to make it worth while for any small department of Home Economics to purchase the book, although valuable to use if available in other departments.

Saving Fuel in Heating a House. By L. P. BRECKENRIDGE and S. B. FLAG. Washington, D. C.: Government Printing Office, 1915, pp. 35. $0.05. Supt. of Documents. (Dept. of the Interior, Bureau of Mines, Tech. paper 97.)

This bulletin discusses the advantages and disadvantages of various fuels and of electricity; different methods of heating residences; and the best methods of firing different fuels. To the householder it gives valuable suggestions for selecting a heating system, for choosing the proper fuel, and for operating the chosen heater. The information about the handling of different fuels, control of drafts, etc., is specially useful. It points out general principles regarding operating conditions, "but it is impossible to give exact and detailed instructions for firing all heaters. The best method of applying these principles in a particular case can be determined only by experiment."

An interesting and very complete record of the fuel consumption in heating a small residence, is given toward the close of the paper.

Spices. By J. K. JANK. St. Louis: Author, 1915, pp. 121. $1.50. By mail of the Journal, $1.55.

This book, intended for manufacturers, grocers, etc., contains information regarding the botanical origin, geographical source, commercial use, and chemical composition of the principal spices. The federal standards for each spice are given. The common commercial grades and the more common seeds, herbs, and leaves, are described. A large amount of miscellaneous information, including federal and state laws on labeling and net weights, is also included.

PAMPHLETS RECEIVED

Opportunities in Occupations Other Than Teaching. By Intercollegiate Bureau of Occupations, 130 E. 22 Street, New York, N. Y., July, 1915, pp. 16. $.05.

Our Daily Food. By Laura Comstock, Amherst, Mass., 1916, pp. 8. (Mass. Bulletin for Farm Women No. 4, Feb. 1916.)

Positions in Social Work. By Edward T. Devine and Mary Van Kleek. New York: School of Philanthropy, 1916, pp. 55.

The Story of Textiles. By the Newark Museum Association, Newark, N. J., 1916, pp. 32. Published in connection with the exhibit held in the Newark Public Library Feb. 1–March 18, 1916.

A Survey of Twenty-three Rural Districts of Desoto Parish, La. By Louisiana State Normal School. Natchitoches, La., 1915, pp. 31. (Normal Quarterly vol. 4, No. 4.)

U. S. Public Health Service Exhibit at the Panama-Pacific International Exposition, San Francisco, 1915. By W. C. Rucker and C. C. Pierce. Washington: Gov. Printing Office, 1916, pp. 29, $.10. Supt. of Documents. (U. S. Public Health Service Sup. No. 27 to Public Health Reports.)

Utilization of Cherry By-Products. By Frank Rabak. Washington, D. C.: Gov. Printing Office, 1916, pp. 24, Supt. of Documents. (U. S. Dept. of Agriculture Bulletin No. 350.)

Vitamines and Nutritional Diseases. By Atherton Seidell. Washington, D. C.: Gov. Printing Office, 1916, pp. 8. (U. S. Public Health Service Reprint No. 325.)

The Woman's Municipal League of Boston Bulletin, Feb. 1916: Dept. of Housing. By W. M. L. of Boston. 109 Hudson Ave., Albany, N. Y. and 6 Marlborough St., Boston, Mass., pp. 79. (Vol. 7, No. 3.)

EXCHANGES

Many of us have read the story of two families, one living in one suburb, and one in another, both equally distant from the same city, who exchanged houses one summer in order to effect a change of scene without expense. The experiment worked very well, in the story; and readers of the story who have been inspired to imitate the plan in real life have found it most satisfactory. Change of air, we are accustomed to think, is an important part of a vacation; but perhaps change of scene is even more important,—the whole value of a vacation depending upon getting out of a rut, even a good rut.

This being so, vacations are more easily to be obtained than many other good things. Of course, it is seldom possible to exchange houses with one's neighbor; but it is almost always easily possible to exchange rooms with a member of one's family. It is amazing, the sense of change, and consequently of refreshment, obtainable by so simple a thing as this. A different bed, different windows, different walls—those make sleep more restful, and waking more cheerful, if one happens to be tired and in need of change—as a person usually is when tired. In families this plan of taking a vacation by exchanging rooms is excellent indeed.

A complete change of scene is, naturally, better than an incomplete one; but an incomplete one is immeasurably better than none. Let all stay-at-homes try it this summer.—*Home Progress.*

ARTICLES IN APRIL AND MAY EXCHANGES

The *Association Monthly* for May contains articles on Women and Unemployment, by Margaret A. Hobbs, p. 145, and The Federal Children's Bureau and its Chief, by Ethel M. Springer, p. 164. In the same magazine, Our Latest Experiment, by Mary E. Scott, p. 170, is an account of the Y. W. C. A. cafeteria in New York City.

Manual Training and Vocational Education for April contains an account of the meeting of the Illinois Manual Arts Association at Joliet. The May number contains an article on The Kitchen Boiler, by J. H. Tipton, p. 680, that while chiefly intended as a problem for high school students, gives the arrangement of the boiler and the water-supply pipes in a clear and useful way.

The *Independent* continues the articles by Martha Bensley Bruere, on The Habits of Women under Domestication including, April 3, Home vs. Family, p. 15; and April 10, The Waste of Saving, p. 61. The Saving of Waste, April 10, by Flora Thompson, p. 62, states the other side of household waste. The number for May 15 contains The Efficient Home, by Edward Earle Purinton, p. 246, and for May 22, Woman in the Market Place, by Margaret Deland, p. 286.

The *Modern Hospital* for May contains an article by the supervisor of the New York School Lunch Committee, Elizabeth M. Fee, on Feeding New York's School Children, p. 365. In the Department of Dietetics, p. 370, The Egg Problem, and The Control of Some Sources of Food Supply are worth notice.

Education for April contains a summary of five lectures on the child called Psychology and Youth, p. 170.

The *Hotel Monthly* for April gives an interesting account of The Ramifications of a Great Dining-Car System, and for May publishes a "Boiled Down" Cook Book Idea, giving a basic dish as keynote for variations, p. 80.

Housewives League Magazine for May has a comprehensive article, Your Part in Saving the Nation's Eyes, by Edward Van Cleve, p. 45, and Model Menus in Place of Medicine, by Helene M. Pope, p. 41.

The Outlook for May 10 publishes an interview with Dr. Henry Moskowitz, president of the New York Municipal Civil Service Commission, on The Garment Trade and the Minimum Wage, p. 66, and also contains a picture of a Philippine Cooking Class.

School and Society, April 8, in The Cost of a College Girl's Education, by F. Stuart Chapin, p. 520, gives a summary of the Smith College girls' accounts kept for a year in response to the request of the Dean. The number for May 20 contains Home Economics, its Opportunities and Obligations, by Isabel Bevier, p. 737, a paper given at the meeting of the American Home Economics Association at Detroit.

The Survey, April 1, contains an article describing the Department of Agriculture's Demonstration and Extension Work, p. 22.

Harper's for May contains Who Feeds the Nation? by Elizabeth Sears, p. 860.

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PERIODICAL LITERATURE

Contributions to the bibliography are welcomed. Please send material to the JOURNAL.

FOODS AND COOKERY

The Carbohydrates and the Enzymes of the Soy Bean. J. P. Street and E. M. Bailey, *Jour. Indus. and Engin. Chem.*, 7 (1915), no. 10, pp. 853–858.

The Fireless Cooker and Its Uses. Helen Canon and Lucile Brewer, *Cornell Reading Courses*, Farm House Ser., 4 (1915), no. 95, pp. 273–298, figs. 8.

A Bread Leavening Agent. C. J. Külümoff, *Centbl. Bakt.* [etc.], II Abt., 34 (1912), no. 1–3, pp. 76, 77; abs. in *Expt. Sta. Rec.*, 34 (1916), pp. 560, 561. The author describes a fermentation liquid obtained from the chick-pea (*Cicer arietinum*) and used in Bulgaria and Turkey.

The Milling of Rice and Its Mechanical and Chemical Effect upon the Grain. F. B. Wise and A. W. Broomell, *U. S. Dept. Agr. Bul.* 330 (1916), pp. 31, figs. 11.

The Banana and Its By-Products. E. Collin, *Ann. Falsif.*, 8 (1915), no. 83, 84, pp. 280–291, figs. 6; abs. in *Expt. Sta. Rec.*, 34 (1916), p. 460.

The Preparation of Porous Bread from Starch. W. Ostwald and A. Riedel, *Kolloid Ztschr.*, 17 (1915), no. 1, pp. 12–14, figs. 5; abs. in *Expt. Sta. Rec.*, 34 (1916), p. 460.

The Food Value of Different Types of Bread. A. Pugliese, *Rev. Gén. Sci.*, 26 (1915), no. 21, pp. 612–617, figs. 3; abs. in *Expt. Sta. Rec.*, 34 (1916), pp. 459, 460.

The Use of Blood of Slaughtered Animals as Human Food. F. Hofmeister, *München. Med. Wchnschr.*, 62 (1915), nos. 33, pp. 1105–1108; 34, pp. 1146–1150; abs. in *Expt. Sta. Rec.*, 34 (1916), p. 459.

The Use of Rice in Bread-making. N. Novelli, *Giorn. Risicolt*, 5 (1915), no. 5, pp. 68–72; abs. in *Expt. Sta. Rec.*, 33 (1916), p. 260.

A Standard Dietary for an Orphanage. Adele S. Jaffa, [*Sacramento, Cal.*]: *State Printing Office*, 1915, 2 ed., pp. 37.

Beri-beri in the Amazon Basin. A. N. Walcott, *Jour. Amer. Med. Assoc.*, 65 (1915), no. 25, pp. 2145–2147.

The Chemical Composition of Some Corn Meal Products and the Digestibility of Protein. Rammstedt, *Arch. Hyg.*, 81 (1913), no. 6, pp. 286–306; *abs. Hyg. Rundschau*, 25 (1915), no. 3, p. 108; *abs. Expt. Sta. Rec.*, 33 (1915), p. 564. Analyses are reported, comparing the chemical compositions of corn, wheat, and rye flours. Values are given for the digestibility of the protein content of flours prepared from peas, lentils, beans, corn, wheat, buckwheat, and rye, as determined by artificial digestion.

The Use of Hardened Fats for Food Purposes. H. Thoms and F. Müller, *Arch. Hyg.*, 84 (1915), no. 1, pp. 54–77; *abs. Expt. Sta. Rec.*, 33 (1915), p. 362. Experiments are reported and discussed. It is recommended that a fat should not be hardened to give a melting point of over 37° C. (body temperature). It was found that in practically every case, if the digestibility of fats melting higher than this was not noticeably different from that of lower melting fats, a tallowy taste and intestinal and other passing disturbances, such as are usually noticed with beef and mutton tallow, were experienced.

Are the Hardened Fats Suitable Food for Man? P. O. Süssmann, *Arch. Hyg.*, 84 (1915), no. 2–3, pp. 121–145; *abs. Expt. Sta. Rec.*, 33 (1915), p. 564. Samples of hardened sesame, peanut, and cotton-seed oils were found to contain 1.0 to 1.1 mg., 1.6 to 6.3 mg., and 0.07 to 0.4 mg. of nickel per kilogram of fat, respectively. Larger amounts of iron were detected but these were regarded as having no hygienic significance.

The author concludes that the amount of nickel present in the hardened fat is too small to produce any ill effects.

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Proteins in Growth. Ruth Wheeler, *Sci. Mo.*, 2 (1916), no. 3, pp. 279–282.

The Chemical Nature and Physiological Significance of So-called Vitamines. Carl Voegtlin, *Sci. Mo.*, 2 (1916), no. 3, pp. 289–293.

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Some Studies on Sugar in Infant Feeding. L. Porter and C. H. Dunn, *Amer. Jour. Diseases Children*, 10 (1915), no. 2, pp. 77–86.

The Calorimeter as the Interpreter of the Life Processes. G. Lusk, *Science*, 42 (1915), no. 1093, pp. 816–819.

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Diet and Its Effect upon Blood Sugar. W. von Moraczewski, *Biochem. Ztschr.*, 71 (1915), no. 4–5, pp. 268–288; abs. in *Expt. Sta. Rec.*, 34 (1916), p. 562.

The Nutritive Value of Wood. G. Haberlandt, *Sitz. K. Preuss. Akad. Wiss.* (1915), pp. 243–257; abs. in *Expt. Sta. Rec.*, 34 (1916), p. 561.

The Preparation of Protein-free Milk. H. H. Mitchell and R. A. Nelson, *Jour. Biol. Chem.*, 23 (1915), no. 2, pp. 459–467. A method is described for the preparation of protein-free milk for experimental purposes.

The Influence of Certain Vegetable Fats on Growth. E. V. McCollum and Marguerite Davis, *Jour. Biol. Chem.*, 21 (1915), no. 1, pp. 179–182.

The Relation of the Quality of Proteins to Milk Production. E. B. Hart and G. C. Humphrey, *Jour. Biol. Chem.*, 21 (1915), no. 2, pp. 239–254.

Basal Metabolism and Body Surface. J. H. Means, *Jour. Biol. Chem.*, 21 (1915), no. 2, pp. 263–268.

On Starvation and Obesity, with Special Reference to Acidosis. O. Folin and W. Denis, *Jour. Biol. Chem.*, 21 (1915), no. 1, pp. 183–194.

[Progress in] Physiological Chemistry. F. C. Hopkins, *Ann. Rpts. Prog. Chem.* [London], 11 (1914), pp. 188–212.

Dropsy and Anemia on Exclusive Potato Diet. O. Strauss, *Med. Klinik.*, 11 (1915), no. 31, pp. 854–856; abs. in *Jour. Amer. Med. Assoc.*, 65 (1915), no. 12, p. 1063.

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The Viability of the Typhoid Bacillus in Sour Cream. C. Krumwiede and W. C. Noble, *Amer. Jour. Pub. Health*, 4 (1914), no. 11, pp. 1006–1008.

A Study of Fruit Jar Caps. G. M. Stapp, *Mo. Bul. Ind. Bd. Health*, 17 (1914), no. 9, pp. 100, 101.

The Bacteriology of Paper Dishes. Mary Dudderidge, *Housewives League Mag.*, 5 (1915), no. 1, pp. 12–15, figs. 3. A study of wood, wood pulp, and water-proof paper food containers, with special attention to their bacterial and mold content.

The Commerical Food Container. Mary Dudderidge, *Housewives League Mag.*, 4 (1914), no. 4, pp. 11–14, figs. 8.

NEWS FROM THE FIELD

The Home Economics Practice Cottage at the University of Washington. A small cottage which has been on the campus since the Exposition in 1909 has come into possession of the Home Economics Department. It became available October 15, when it was given over to the home decoration class under Miss Denny as a problem in house furnishing.

The only resource in sight at that time was a fund of $50 from the treasury of the Home Economics Club of the University.

The home decoration class worked out a color scheme. Textile students dyed unbleached muslin to screen the alcove. These hangings furnished the dominant note in the color scheme. The windows were curtained with ten cent cheese cloth with a bit of hairpin lace set in at the hem. A rug was rescued on its way from the President's office to a lowlier position. Friends loaned unwanted chairs and beds. Students made braided rag rugs and dyed and wove others. They also wove some pillow covers. The most successful one, however, is a dyed sugar sack with a touch of coarse needlework. Slip covers of cretonne were made for the over elaborate chair and tailored pillows for the uncomfortable chairs.

The home decoration class has been remarkably successful in preserving the color scheme and in keeping the result a simple, inviting interior.

There has been a surprising response to the appeal made by this attempt to make "bricks without straw."

The Pacific Conference of Home Economics concluded its year's work at a meeting held at the Gardena Agricultural High School, Los Angeles, May 18.

At this meeting Mrs. Frank A. Gibson of the State Immigration Commission and Mrs. Amanda Matthews Chase, author and a home teacher, were guests and spoke on their respective lines of work. Mrs. Gibson is familiarly known as the Mother of the Home Teachers' Bill, since it was through her influence that the bill was passed at the last session of the legislature.

The September meeting was the occasion of a tea in honor of our guests, Miss Martha Van Renssalaer and Miss Flora Rose of Cornell.

The November meeting was held in connection with the Southern California Teachers' Association in San Diego. At this meeting, Dr. Jessica Peixotto, Associate Professor of Social Science of the University of California gave an able address on The Needs of the Home Teacher, followed by a discussion of the subject led by Miss Helen Stafford of Los Angeles.

In February the conference arranged a series of lectures on Foods and Cookery given by Miss Anna Barrows. These were largely attended.

In April Miss Estelle Lawton Lindsey, City Councilwoman of Los Angeles spoke on Woman's Work in City Government.

Besides the regular meetings of the Conference, the Domestic Art and the Domestic Science Sections have held monthly meetings taking up topics of special interest to each.

The Housekeepers' Alliance of Washington, D. C. At the annual meeting held May 31 about $50 was distributed to the winners of prizes in the breadmaking contest, carried out under the supervision of the Director of Domestic Science in the public schools, who is a member of the Alliance. The contest was open to all students of the grammar schools, and the prizes were five dollars savings accounts in banks situated near the homes of the winners. The contest is said to have been carried on with extraordinary interest and most satisfactory results.

An exhibit along the lines of household economy is planned for the next year. The following is the announcement on the card which is being distributed to housewives, in connection with the general education campaign toward economy and the right attitude concerning it.

WAR ON WASTE

The Housekeepers' Alliance asks homemakers and houseworkers to cut out the waste in the home.

Don't waste food, it will feed the hungry.

Don't waste fuel, it furnishes power to keep men at work.

Economy in the home is the defense of the nation.

The Alliance invites each homemaker to reward successful economies in her own kitchen, and to enter the results in competition for a prize to be offered for the best showing in economy during the next six months.

Make reports to Prize Competition Secretary, Mrs. Orville Peters, 1900 S Street N. W., Washington.

The South Carolina Home Economics Association held its third annual meeting in Columbia, S. C., Friday, March 17th, in connection with the state teachers' association, of which it is a part. Miss Martin, the president, presided over an unusually large meeting, that left the officers encouraged over the rapid growth of the work and the interest taken in it. Mrs. Henrietta Calvin spoke on Home Economics Work and the Status of the Teacher. Other talks were: How Can I Make a Beginning in My Community in Home Economics, Miss Bessie Rogers; The Influence of Home Demonstration Work in Making the Home Economical and Efficient, Miss Mary Lemmon; The Home Beautiful, Miss Mary Frayser; Division of Time, Miss Catherine Mulligan; Preparedness, The Teacher, Miss Mary McGowan.

Two Questionnaires. That every record of what has been done under given conditions is an important help in the science of management and efficiency; that beginners in homemaking are asking their elders for guidance in the business relations and economics of an individual income and outgo; that the housewife wants to learn what others have found possible; and that instruction in these subjects may be made more accurate and valuable are reasons given for justifying the request for information in the questionnaire on how to spend the income, sent out by Miss Elliott, instructor in Household Management at Simmons College.

The questionnaire was prepared for former students but answers by others will be warmly welcomed.

Every item asked for involves information which bears on the economic problems of some home.

A second questionnaire of much interest is that issued by the Women's Educational and Industrial Union in its study of the Food of Working Women of Boston, undertaken with the purpose of finding out how these girls can be supplied with good nourishing food at a minimum cost. Believing that hundreds of girls have worked out ingenious answers to this question and that mutual aid is the most important factor in the solution of every social problem the Union cooperating with several other organizations is undertaking to put the results of experience in available form.

The forty-third annual National Conference of Charities and Correction at Indianapolis May 10, 1916, made its greatest contribution in the field of education through a series of six meetings arranged by the committee on Children under the chairmanship of Miss Julia C. Lathrop of the Federal Children's Bureau. These were given over entirely to a consideration of the social service value and demands upon the public school. At one session the liveliest sort of give-and-take argument on the Gary scheme was indulged in. The public school teachers of Indianapolis made special arrangements to take advantage of the Conference. In addition, on one day a meeting of college and university teachers was arranged to consider the use of data of social work in teaching sociology.

The conference at Indianapolis lasted eight days and broke all previous records for size of gathering of men and women engaged professionally in social work. The main divisions of discussions were upon children, corrections, the family and the community, feeble-mindedness and insanity, health, inebriety, promotion of social programs, public and private charities, and unemployment. The next session will be held at Pittsburgh during the spring of 1917 under the presidency of Frederic Almy, Secretary of the Buffalo Charity Organization Society. Mr. Almy has already announced as the subject for his presidential address, The End of Poverty.

The Johns Hopkins University. As an outcome of the recent Educational Survey in Maryland, the summer session of the Johns Hopkins University offers, under the approval of the State Superintendent of Education, courses of instruction which will enable persons to make preparation toward the various teachers' certificates specified in the new law which went into effect June 1.

Among these certificates is one for high school teacher of domestic science and art.

The courses which can be taken to meet the state requirements and also be credited toward the Bachelor of Science degree include domestic science and art.

A Self-Supporting Food Department. One of the best plans for the sale of food cooked in Home Economics classes is that carried out in the State Normal School at Valley City, N. D. The food courses are self-supporting and recipes are prepared in quantity for family use (that is, to serve an average of from four to eight). The list of recipes to be prepared during the day is posted on the bulletin board in the main hall; a small show case is provided at the entrance of the cooking laboratory and as soon as a recipe is completed the dishes are arranged for sale. There is a constant demand for these products from teachers, students who are doing light housekeeping, and housekeepers in the town. The work of the classes is hampered in no way because the needs of the students determine the article prepared, and those who wish to purchase must adjust the satisfaction of their demands to the supply. A housekeeper may call up to find out what is on hand or even adjust her day for inviting guests to a time when the particular article she wishes will be available.

The students figure the cost of the recipes and become acquainted with the market value of the food materials before and after preparation. They are permitted small servings of all the dishes so that they may know the flavor of all of them. The added interest that the preparation of a salable product creates is apparent in the spirit with which the students work. The Home Economics department becomes also a recognized factor in the community through its relation to the housewife and has an opportunity to keep in touch, in a small measure, with the needs of the home.

The State Interdenominational School of Missions will hold a ten days' meeting with the College of Industrial Arts, at Denton, Texas, during its summer session. The school will have probably 200 women in attendance, who in addition to the regular courses of study will take Home Economics work especially planned for them by the faculty of the college.

There are also planned for this session non-credit courses for mature women that are practical and that render real service to the many women of the state.

The summer session of this state college for women of Texas has been lengthened this year to eight weeks and will include two schools, a Summer Normal Institute and the regular Summer School of the college.

The Summer Normal Institute is intended primarily for teachers in the state who are working for the various grades of teachers' certificates and who by attending the College of Industrial Arts may avail themselves of one or more Home Economics subjects.

The Summer School may be called the fourth term of the college year with students who wish credits on their regular three or four year courses.

The college has recently been granted rating as a college of the first rank and the number of students remaining in Texas to take their degree in this college is expected to greatly increase each year.

New courses this year include work in library methods, expression, public school music, and a course in physical training and playground supervision. A special course will be given for canning club and home demonstration agents of Texas.

Mr. A. C. Monahan of the United States Bureau of Education, one of a number of lecturers and speakers of national reputation will give a series of nine lectures on problems of rural schools and rural life. H. T. Mussellman, Editor of the *Texas School Journal*, Dallas, is among the Texas lecturers.

The faculty, of more than sixty, will be made up of directors and instructors in the various departments and of prominent educators of Texas and other states.

Canada's Work. Those who are interested in the extension education carried on in the United States under the Smith-Lever Act will be glad to see this summary of similar work in Canada, also under Government auspices.

Of the activities encouraged and promoted by funds provided under The Agricultural Instruction Act of the Dominion none is more worthy than the improved means which have been made possible for the development of the boys and girls. Boys' and girls' clubs; school fairs; nature study classes in the public schools; school gardens, all encourage association and sociability as well as a love for outdoor life. All four divisions of the work receive substantial support in every province from the grants derived under the Agricultural Instruction Act. In Prince Edward Island, the sum devoted to these purposes in 1913–14, the first year the Act was in operation, was $5,529; in the third year, or in 1915–16, it is $10,050. In Nova Scotia the sum thus employed under the Act in 1913–14 was $6,700; in 1915–16 it is $10,000. In New Brunswick in the first year it was $1,500; in the third year it is $10,000. In Quebec the first year it was $3,000; in the third it is $8,000. In Ontario it was $10,000; it is now $20,000. In Manitoba it was $2,000; it is this year $5,200. In Saskatchewan it is $2,100. In British Columbia $1,000 was so used in 1913–14, but this year for boys' and girls' competitions, fairs, etc., and instruction in public schools, $17,000 is to be spent from the grants. It must be understood that while in some of the provinces the money is directly employed for the purposes set forth, in others it is used in other ways and the sum required for school fairs, school gardens, and so on, is received from provincial and municipal sources. The figures, however, are in themselves abundant indication of the far-reaching benefits conferred by the Act.

Brief Notes. A silver tea given by Mt. Pleasant W. C. T. U. at the Wilson Normal School Tea Room on Wednesday, March 29, was addressed by Mrs. Charlotte White Lee on Practical and Esthetic Dress, illustrated by models. Dr. Lauretta Kress spoke on Dress in Relation to Health, while others followed with short talks on Christian, moral, and honest dress. A recitation in the costume of "grandma's day" was given.

At a meeting of the Dietitian's Section of the New England Home Economics Association, March 22, the following subjects were discussed: The High Calorie Diet in Typhoid, and Differences in the Dietetic Treatment of Medical and Surgical Cases of Gastric Ulcer.

Miss Anna McMillan, Teachers College, Columbia University, has been appointed to succeed Miss Katherine Ingersoll, who has resigned, as instructor in charge of Domestic Art at Lewis Institute, Chicago, Ill. The entire Domestic Economy Department is planning improvements in the courses and curricula for the coming year.

General Federation of Women's Clubs, Thirteenth Biennial Convention. Doubtless the earliest impressions of all who attended the Biennial in New York June 1–16 were (1) of the phenomenal size of an organization represented by such an enormous delegation as that assembled, and (2) the extensive nature of the organization, emphasized by the representations not only from most remote sections of the United States, but from Alaska, Honolulu, and other distant places. Visitors from many other nations increased the emphasis upon the wide-spread interest in the movement and its work.

Two purposes in the arrangements were apparent, namely, to present the vision of present-day forms of constructive activities, and to aid club leaders with helpful and definite suggestions for local leadership.

Of special interest at the former business sessions were the reports of the different department chairmen, presenting briefly the work of the departments in the past four years, followed by addresses emphasizing special phases of the department interests.

The afternoon sectional conferences were of great value; conservation, education, literature, civics, music, art, public health, home economics, legislation, civil service reform, industrial and social conditions, all receiving attention with excellent addresses and discussions. Home Economics seemed to be a most important topic, judging from the crowded sessions and the interest shown in the splendid programs which Miss Helen Louise Johnson, the National Chairman, presented.

In the forenoon general conference, President Vincent of the University of Minnesota, speaking upon Homemaking as a fine art, gave a most gratifying tribute to the work being done through Home Economics teaching. He pointed out the great significance of the fact that it bases its work not upon tradition handed down from generation to generation, but upon science. It strives to secure a business recognition for home activities, so that women so engaged shall not be classed as at present in the census as not among those engaged in "gainful occupations." In the great interplay of personality in the home intercourse are great economic, esthetic, and spiritual tasks of which the material activities are but the expression. Home Economics involves vastly more than nutrition and decoration; it aims at vastly more. Its ideals are those of sincerity, simplicity and beauty, not of ostentation. It dreams of a time when taste and art and appropriateness rather than fashion will control in life. At a time when great waves of commonness and vulgarity are in danger of sweeping over us we need to emphasize the duty, the privilege, and the obligation of each family to live its own life and ideals and so to become a missionary to the masses. Home Economics teaches the finest of the arts, and homemaking exemplifies it when it lends itself to creating souls, lives which may live beautifully.

During the Conferences Dr. Carl Alsberg spoke upon Why We Need Uniform Food Laws; Prof. Graham Lusk, upon The Study of Food Values; Mr. Lawrence Veiller upon How Women can Help Solve the Housing Problem; Miss Mabel Kittredge upon Home Economics and Shelter; Dean Arnold upon The Child in the Home; Miss Julia Lathrop upon Education of Mothers as a Problem in Democracy; and Lady Duff-Gordon upon Clothes and the Woman.

Miss Fales of Teachers College presented an interesting pageant of living models showing the clothes of the past twenty-five years, followed by several furnished by B. A. Altman Company of conservative lines, suitable for more than a season's fancy. In a conference on Different Phases of The Dress Question the subject was discussed by consumers and producers, by those who wear, make, and sell styles. The dominant note of the discussion was the need of a saner control of dress so that the caprices of fashion shall dictate less frequent change, with a more thoughtful and intelligent selection of clothing which in simplicity and in better adaptation of line and color to the individual shall give more artistically beautiful clothing at a reduced expenditure.

HOME ECONOMICS MEETINGS OF THE N. E. A.

At the Annual Meeting of the N. E. A. to be held in New York the week of July 3, two Home Economics section meetings are announced for July 4 and July 5, respectively. The meeting on Tuesday, July 4, to be held at the Washington Irving High School, Irving Place and 16th Street; that of Wednesday, July 5, at Teachers College.

PROGRAM

TUESDAY, JULY 4

Washington Irving High School—5th Floor Lunchroom
President of Home Economics Association, Chairman

10.00 a.m. Continuation classes in household arts
Cleo Murtland, Secretary of Women's Work in the National Society for the Promotion of Industrial Education

Teaching practical dietetics
C. F. Langworthy, Chief of Office of Home Economics, U. S. Dept. of Agriculture

Teaching fabric values
Nellie Crooks, Director of Household Economics, Milwaukee-Downer College, Milwaukee, Wis.

Teaching dress reform through the schools
Ethel Ronzone, University of Missouri

WEDNESDAY JULY 5

Teachers College, Chapel

2.00 p.m. Sanitation in food shops and markets
Donald B. Armstrong, M.D., Association for Improving the Condition of the Poor, New York City.

Supervision of Home Economics instruction
Mrs. Henrietta W. Calvin, Expert in Home Economics, United States Bureau of Education, Washington, D. C.
With discussion by Emma Jacobs, Director of Domestic Science, Washington, D. C.; Margaret Holt, Acting Director of Cookery, New York City Schools; Mrs. Anna Hedges Talbot, Supervisor Vocational Education for Girls, New York State; Elizabeth Condit, Supervisor of Household Science, Pratt Institute, Brooklyn, N. Y.

Survey of Home Economics teaching in the Cleveland schools.
Alice Boughton, Supervisor of School Luncheons for the League of Home and School Associations, Philadelphia, Pa.
With discussion by Florence Winchell, Ethical Culture School, New York City; Arthur D. Dean, Chief, Division of Vocational Schools, New York State.

The N. E. A. will also have two programs of special interest to teachers of Home Economics, one on Monday, July 3 at 9.30 a.m. and one on Wednesday, July 5, at 9.30 a.m., both at Concert Hall, Madison Square Garden.